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The Review of Metaphysics

A Philosophical Quarterly

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Articles

SOME PHILOSOPHICAL IMPLICATIONS OF MATHEMATICAL LOGIC

I. THREE CLASSES OF IDEAS

JOHN MYHILL

There are problems which require insight, and problems which require only technique. This fact is of course commonplace. But it might be supposed that in mathematics at any rate the former class of problems represents merely an accidental gap in knowledge, which will be closed in the next few thousand years if death or dynamite do not intervene.[1] The discovery of Gödel and Church is that any such supposition would be mistaken. Negatively this discovery means that no matter what changes and improvements in mathematical technique the future may bring, there will always be problems for whose solution those techniques are inadequate; positively,[2] it means that there will always be scope for ingenuity and invention in even the most formalized of disciplines. The purpose of this paper is to state these discoveries in precise but non-technical language, to guard against certain misconcep-

[1] For a strong statement of this belief, cf. C. S. Peirce, *Collected Papers*, 3.527. Says he: "In regard to the ideal world we are virtually omniscient; that is to say, there is nothing but lack of time, of perseverance, and of activity of mind to prevent our making the requisite experiments to ascertain positively whether a given combination occurs or not. Thus, every proposition about the ideal world can be ascertained to be either true or false."

[2] The positive or "creative" aspect of these findings has received but little stress in the literature, with the notable exception of a single paper by Post (No. 28 in the Bibliography). The depressing effect which Church's discovery had on research is reflected in the almost abrupt cessation, contemporary with the publication of his result, of work even on *partial solutions* of his "unsolvable problem," a topic of which the literature of the twenties is full. This was surely an irrational reaction.

tions which sometimes arise in their interpretation, and to adumbrate their implications for general philosophy.

As to the misconceptions: In the first place, the existence of "undecidable propositions" or "unsolvable problems" has only remote connections with the failure of excluded middle. More precisely, from the fact that a certain problem is unsolvable, one cannot infer that the affirmative and negative answers to that problem are both incorrect. Both Gödel's and Church's theorems were originally proved for systems with the excluded middle, *i.e.* for systems in which 'p or not p' is provable for every proposition 'p'; though in the light of Gödel's theorem there are propositions 'p' such that neither 'p' nor 'not p' is provable in those systems. Careful distinction should be made between the following locutions:

(1) 'p or not p' is provable; $\vdash (p \vee \sim p)$;

(2) 'p' is provable or 'not p' is provable; $\vdash p. \vee \vdash \sim p$.[3]

(1) asserts that according to the particular system being discussed, 'p' is subject to the law of excluded middle; *i.e.* that that system assures us that 'p' is either true or false, though it may not be able to tell us which. If (1) holds for every proposition expressible in a formal system, we say that that system possesses the principle of excluded middle.

(2) asserts that the particular system being discussed is able to inform us definitely as to the truth or falsity of 'p.' In any of the usual systems, (1) will follow from (2); but (2) will not in general follow from (1). In case (2) holds, we say that 'p' is decidable; if it holds for every proposition 'p' expressible in the system, we call the system complete.

The following two must be distinguished analogously:

(3) 'p' is not provable. $\sim \vdash p$;

(4) 'not p' is provable. $\vdash \sim p$.

(3) asserts that either 'p' is refutable or 'p' is undecidable; (4) that it is definitely refutable.

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[3] Cf. Aristotle, *De Interpretatione* 19a. "A seafight must either take place tomorrow or not, but it is not necessary that it should take place tomorrow nor is it necessary that it should not take place, yet it is necessary that it either should or should not take place." Aristotle's point is not the same as ours, yet the analogy seems worth mentioning.

Once these distinctions are made, there should be no confusion between undecidability, which has reference to human limitations, and neutrality as between truth and falsehood, which, if such a thing there be, is an objective character. Henceforth, in order to minimize the likehood of this confusion, we will deliberately avoid the discussion of propositions or systems which violate or appear to violate the excluded middle.

The second misconception is as to the meaning of the words "undecidable" and "unsolvable." Commonly one speaks of "an unsolvable problem," and I deferred to this usage myself in the preceding paragraph. But I intend henceforth to use the words "undecidable" and "unsolvable" in precise and distinct senses; and this usage will be seen not to permit me to speak of *an* unsolvable problem, but only of an unsolvable *class* of problems. We proceed first to the explication of this sense of "unsolvable" and defer till later the explication of "undecidable."

It was just said that unsolvability is a character of *classes* of problems: thus it is grammatical (though false) to say that quadratic equations are unsolvable. We can, as a matter of fact, teach people to solve quadratic equations — *i.e.*, we can so train them that faced with any quadratic equation they will be able, memory, sobriety and time permitting, to determine correctly its solutions. More precisely, we can give them a *set of directions*, never requiring revision or supplementation, by following which the solutions of any quadratic equation may be found. We say, then, that quadratic equations are solvable: but about this explanation there are many points still unclear.

"Solvable" means it is possible to give a set of directions which will always come out with a correct answer; "unsolvable" means that it is not possible to do so, *i.e.*, that any valid set of directions will be inadequate (will yield no answer in some cases).

Next, observe that the "set of directions" mentioned need not in any way involve recognition on the part of him

to whom the directions are given (or even on the part of him who gives them) of *why* the answers obtained by following them are correct.[4] Thus any statement in the propositional calculus containing (outside of variables) only equivalence signs may be determined to be tautologous or not by a simple device of counting these marks and applying an elementary arithmetical formula;[5] the bare statement of this gimmick, unaccompanied by explanation, would in our usage provide a valid and adequate set of directions for solving the given problem (or rather, for solving problems of the given class).

This remark seems perhaps trite and verbal; it is included mainly to justify the at first sight rather surprising conclusion that it is meaningless to talk of *an* unsolvable problem, or in general of an unsolvable *finite* class of problems. Let A, B, and C be any mathematical problems whatsoever; let them be of such a kind as to permit of a "yes" or "no" answer; let them finally, for interest's sake, have baffled the ingenuity of centuries of researchers. Let the chairmen of the mathematics departments of eight universities decide on the assignment of "yes" or "no" to these three questions in all eight possible ways. (Chairman I says A yes, B yes, C yes; Chairman II says A yes, B yes, C no; Chairman III says A yes, B no, C yes; and so on down to Chairman VIII who says A no, B no, C no.) Let each of the chairmen assure his students *ex cathedra* of the correctness of the assignment he has made; let Chairman III for example instruct his students always to write down "yes" when faced with questions A or C and "no" when faced with question B. Now *one* of the

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[4] It may be thought that this condition's strangeness weakens or invalidates the results immediately to be discussed. Actually it strengthens them: it means that in those cases where we say that no solution can be obtained, *not even by blind chance* can a solution be obtained.

[5] Leśniewski, "Grundzüge eines neuen Systems der Grundlagen der Mathematik I." *Fundamenta Mathematicae*, Vol. 14 pp. 26-29. Such a formula is tautologous just in case each variable occurs an even number of times: thus $(p \equiv (p \equiv q)) \equiv q$ is tautologous since each of its variables p and q appears twice, an even number; and $(p \equiv (q \equiv r)) \equiv (p \equiv r)$ is not, because of its singleton q.

eight chairmen must on our assumptions and definitions have given a valid and adequate set of directions for the class of problems A, B, C, even though he did not in any reasonable sense know that he had done so. The argument obviously does not depend upon the number (3) of questions involved; every finite number would have given the same type of result. In particular if there had been but one question, we would have needed but two chairmen, and of these one would wittingly or not have given a valid and adequate set of directions for its solution.[6] Hence we cannot speak of *an* unsolvable problem but only of an unsolvable *class* of problems; and hence every finite class of problems is solvable. Quadratic equations make up infinitely numerous single class of problems, but of course are solvable.

Unsolvability is an absolute concept,[7] that is it is not relative to a particular formal system.

Church's theorem is concerned with a particular unsolvable class of problems, though the techniques employed in its proof can be readily modified so as to yield further such classes. Interest has centered of late on using this technique to show that certain classes of problems of interest to mathematicians are unsolvable. In particular it turns out that the theory of groups is especially amenable to such treatment.[8] The

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[6] Cf. Aristotle, *De Interpretatione* 18a. "A man may predict an event 10,000 years before and another may predict the reverse. That which was truly predicted at the moment in the past will of necessity take place in the fulness of time." It is true that Aristotle disagrees with the point here expressed, but only to the extent of dropping the words "of necessity."

[7] Cf. Emil Post, [27], p. 200. (Numbers in square brackets refer here and hence forth to the bibliography at the end of this article.) "(A variant of Church's unsolvable problems) is absolutely unsolvable, ... By contrast, the undecidable propositions of Gödel ... are only relatively undecidable."

[8] The papers reviewed in the following places in the *Journal of Symbolic Logic* deal with this topic: Vol. 12, p. 89, vol. 13, pp. 52, 53, 170, 228, vol. 14, pp. 63, 144, vol. 17, p. 74. The fact that these reviews were selected by random thumbing through shows the extent to which this problem is being worked on.

original form of the theorem is more particularly of interest to logicians: the class of problems declared unsolvable is the following:

To determine whether or not a given formula is provable in the theory of propositional functions of two variables. (Alternatively, whether or not a given form of inference represented in that calculus is valid.)

In order to understand the significance of this result, it is helpful to consider certain closely related classes of problems which *are* solvable. The propositional calculus is one such class for the technique of truth tables provides a ready test of provability therein. The theory of propositional functions of *one* variable, including as a special case the theory of the Aristotelian syllogism, is likewise solvable (for instance by Venn diagrams),[9] while the theory produced by combining these two can be handled by techniques originated by Löwenheim [10] and of late much improved by Quine.[11]

As an example of a problem which falls within the class shown by Church to be unsolvable, we may cite the following:

All horses are animals, therefore all heads of horses are heads of animals. Valid or invalid?

Of course there is no difficulty with this particular problem; it is obviously valid. What Church has produced is not *an unsolvable problem* but *an unsolvable class of problems.* Specifically he has shown that there is no set of techniques which will enable us to decide of *any given argument* resembling the above whether or not it is valid. By "resembling the above" I mean resembling it in that its validity or invalidity hinges solely on its structure in terms of propositional connectives, quantifiers, and propositional functions of one *or two* variables. The italicized words are crucial, for without them Church's theorem would not be true.

It may be desirable to restate his theorem as follows: whatever technique be proposed for testing arguments of the

[9] W. V. Quine. *Methods of Logic*, pp. 69-83.

[10] L. Löwenheim, "Ueber Möglichkeiten im Relativkalkul," *Mathematische Annalen*, vol. 76, pp. 447-470.

[11] W. V. Quine, *op. cit.*, pp. 101-113.

stated kind, there will be cases to which it is not applicable, *i.e.*, in reference to which it is either inadequate or invalid. Far from assuring us of the existence of a locus where special difficulties will be encountered, it assures us that the loci are so dissimilar, superficial appearances to the contrary, that no one technique (and incidentally no combination of a finite number of techniques) will suffice to cover them all.

The distinction we are making resembles that between the propositions: No man will ever see all women and: There are women no man will ever see. No technique will mechanically test for validity all problems of the kind at hand, and therefore [12] there will be such problems whose answers will be unknown when the sun grows cold. But there seems no reason [13] to suppose that any particular problem in the theory of propositional functions will prove especially refractory, just as from each man's disability to see all women we could not infer that any one woman would be invisible to all men. "There is no technique that will test all (such) arguments" is true, while there is no special reason to suppose that there are (such) arguments that no technique will test (even if that means anything).[14]

No indication has as yet been given of a certain basic assymetry in Church's theorem. It turns out that the situation in regard to forms of inference which are *valid* as to their structure in terms of propositional connectives, quantifiers and

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[12] Because at any stage we will have evolved only a finite number of techniques, which from the present standpoint we regard as amalgamated into one technique. But any one technique is inadequate. Thus we may say, "Church's discovery implies that some such problems will be unsolved when the sun grows cold," but we may *not* say, "there are some problems such that Church's discovery implies they will be unsolved when the sun grows cold."

[13] Other than empirical.

[14] The reason why it is doubtful whether any meaning can be attached to this phrase is the same as the reason for which we said above that it is impossible to speak of *an* unsolvable problem, *viz.* that we can always train one person to answer 'yes' and another to answer 'no' when faced with that problem; then we will have taught one of those persons (but we may not know which) a correct technique of solving it.

propositional functions (henceforth this cumbersome phrase will be replaced by "quantificationally valid") is more favorable than that in regard to forms of inference which are *invalid* as to that structure. For it *is* possible [15] to give directions for churning out one by one every quantificationally valid form of inference, while it is *not* possible to give directions for churning out all the invalid forms. A solution of the problem of whether or not a given inferential form is quantificationally valid might be supposed obtainable along the following lines: set in motion the machine for generating all the valid forms, and simply see whether the formula turns up or not. This proposal would be useless; for *one does not know how long to wait for the answer.*

Suppose momentarily, however, that the situation were different; suppose that it were possible to set *two* machines [16] or morons going from given sets of directions, so that one would sooner or later churn out any given *valid,* the other sooner or later any given *invalid* form of inference. Then I say we would have an effective method of testing validity. For given any form of inference A we would simply wait until it was churned out by one or the other machine or moron. Churned out it must by our assumptions eventually be. It may be objected that, here as in the actual case, we would not know how long we had to wait. But we do know that if we only wait long *enough,* the answer will come out one way or the other; while in the actual case (there being no invalidity-

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[15] K. Gödel, "Die Vollstandigkeit des log. Funktionenkalkuls" *Monatsh. fur Math. u. Phys.,* vol. 37 pp. 349-360.

[16] This is to be taken literally. What are called normal systems below (and quantification theory is one of these) are precisely those systems all of whose asserted sentences could be churned out by a digital computer of a type not essentially different from those ordinarily in use. And a class of problems is solvable if there is a machine of this kind which is able to give a (correct) yes or no answer if any problem belonging to that class that is fed into it. So Church's theorem implies that it is possible to construct a machine A such that *no* machine B will always be able truthfully to answer the question: "Will the formula p appear on machine A's tape?"

The locus classicus is A. M. Turing, [33].

machine either available or possible) we don't know this; in fact we know that in case the form being tested is invalid, no answer will ever be forthcoming.

The above discussion corresponds to a formal theorem of Kleene's [17] to the effect that if a discipline admits of a complete proof procedure (*i.e.*, if its valid formulae or inferential forms can be mechanically churned out) and also of a complete *disproof* procedure (ditto for its invalid formulae or inferential forms) then there exists a mechanical method of testing these forms of formulae for validity. That there is no such method available for the theory of propositional functions of one and two arguments reflects the absence of a complete disproof procedure.

It may be well to advert at this point on a remark of Weiss [18] to the effect that since all logical principles are on a par, the axiomatic method in logic is misleading in suggesting that the axioms are in some sense prior to the derived theorems. This remark was made in special reference to the propositional calculus, and in respect to this and other solvable disciplines may surely pass unchallenged. Indeed in his book *Mathematical Logic* [19] Quine explicitly adopts this point of view and flatly writes down as an axiom "All tautologies are theorems" instead of giving a list, *Principia* fashion, of certain tautologies from which others are to be derived. But Church's discovery makes it impossible to adopt this attitude without reservation in other parts of logic. For to state as an axiom "All X's are theorems" presupposes that we know an X when we see one, and although we know a tautology when we see one, we don't, according to Church, always know a quantificationally valid formula when we see one. To put the matter differently: suppose someone doubts

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[17] S. C. Kleene, [20].

[18] "Two-valued Logic, Another Approach" *Erkentniss* vol. 2 pp. 242-261. Cf. especially p. 242; "If it be realized that the system form is accidental to logic, it will soon be apparent that all logical propositions are on the same level and are of equal generality." See also *Reality*, pp. 139-140.

[19] Axiom 100, p. 88; cf. also *Methods of Logic*, p. 157 (rule TF).

the formal correctness of a proof in Quine's system. (When I say "formal correctness" I don't mean the validity of the proof; I am simply referring to the question of whether or not it has been carried out according to the rules as stated in the book.) Suppose also that his doubt hinges on a line of proof alleged to have been obtained by the use of the above-mentioned axiom. Then his doubts can be dispelled or confirmed completely by a simple recourse to truth-tables. Suppose now that another system contains the fundamental rule, "If p has been proved, and if q follows from p by some quantificationally valid inferential form, then q may be asserted." Suppose that doubts arise concerning the legitimacy of an alleged application of *this* rule in some particular formal proof. By Church's theorem, there is no method analogous to truth-tables by means of which such doubt could in general be set at rest. Of course, it is conceivable that the individual who doubted the correctness of the proof in question should follow out the set of directions mentioned above whereby every quantificationally valid form of inference may be generated; as each one appeared, he would compare it with the suspected inferential step, and if eventually he succeeded in discovering such a form of inference which validated that step, his doubts would at last be dispelled. But this is only one case; there are two others which must surely convince us of the unreasonableness of including rules of the above-mentioned kind in the axioms of a formal system. In the *first* place, suppose that as a matter of fact the step was unjustified. Then the doubter may be imagined as striving year by year to find a quantificationally valid inferential form which would justify it and naturally being always unsuccessful. Eventually we may imagine him approaching the author of the system and registering his discontent with the entire situation. We would surely regard the *onus probandi* as now resting with the author, and of course he would never be able to bear it. Does this justify us in declaring the proof to be incorrect? Only insofar as we happen to have assumed *ex hypothesi* that it was. Phenomenally, the same situation would arise in the *second* of the two "hard cases" we are considering, namely, in the case

in which although the proof is as a matter of fact correct, the doubter after years of struggle has still not lit on the quantificationally valid inferential form which makes it so. Let us suppose that he approaches the author once more with an appeal for enlightenment. Suppose that this time the author persuades him by the thoroughly rational device of showing him that if he had let the validity-machine run just one revolution further the wanted form would have been forthcoming. It can be seen that we were not justified in declaring the proof invalid in the former case, that is, not just because the author was unable to supply that form. In short: although, if the proof is correct, one will, given time enough, encounter evidence which will rationally convince one of this fact,[20] on the other hand, the lack of such convincing evidence can never be regarded as proof of incorrectness. There are conceivable situations in which the reader may doubt the proof's correctness and the author be unable to supply him with evidence thereof *even when the proof is correct.* From this it follows that, in those cases where the author or the reader's own ingenuity *can* provide him with the required evidence that the questionable axiom has indeed been correctly applied, the real "proof" consists not merely in what is published as a proof, but also in the testimony adduced in support of the statement that the axiom *was* correctly applied. Without such testimony the "proof" is incapable of commanding universal assent, and is unworthy of the name of proof.

Now let us consider the form of testimony which could convince us that the axiom entitling us to derive quantificationally valid consequences from a previously proved proposition had been correctly applied on a particular occasion. One form which such testimony could take would be the laborious generation, by the process alluded to above, of a finite segment of the infinite sequence of quantificationally valid inferential forms sufficiently long to include the one desired. Apart from trivial divergence of detail, this is the conventional axiomatic method. One divergence of detail which is philo-

[20] This is the main result of Gödel's paper cited in fn. 15.

sophically and practically of great importance is the fact that in using axiomatic method we have commonly at every step a wide choice of the succeeding step. This choice is made by us, keeping in mind the *end* as well as the initial premisses or axioms of the deduction, in accordance with principles which seem in some sense to be radically incapable of systematization. This is the locus of genius. However, this difference between the axiomatic and the moronic or mechanical method of aimlessly generating form after form, *is* trivial *from our present point of view*, since whatever can be proved by one method can also be proved (though for the most part in a vastly longer time) by the other.

What is crucial, however, in regard to *any* technique which can show of any given quantificationally valid inferential form that it is valid, is that it involves not mechanical testing but the generation of form after form or proposition after proposition in a definite order in time. It is true that this order is not uniquely determined, at least in the conventional axiomatic methods;[21] nonetheless, certain formulae are uniquely determined as "immediate" in the sense that they can be shown, by the technique in question, to be quantificationally valid, without any other formulae having previously been shown to be so. When we speak of unique determination, however, we mean this with the following provisos: firstly, the order is an *ordo cognoscendi* and not an *ordo essendi;* secondly, the order is determined only by the choice of technical means and not by the discipline (theory of propositional functions) itself; that is, there are many techniques which can be used with equal validity to handle this discipline, and some of them will have different "immediate" or primitive propositions from others. We have seen that some axiomatic or other formalization of quantificational validity must be incorporated into any system of logic adequate for inference beyond the most elementary range and that it cannot, if logic

[21] As a matter of fact, every system which can be formalized at all can be formalized so as to have just one axiom and one rule, so chosen that the theorems come out in a uniquely determined order.

is to retain its traditional character of universal cogency, be incorporated merely as a blanket axiom to the effect that quantificationally valid inferences are permissible but must rather be incorporated in a form which makes the validation of such inferences a temporal process in which some are validated earlier than others. If we take count of the wide range of axiomatizations which are possible or even of those which have been found practically convenient, we find no kind of evidence that in order of being any quantificationally valid form precedes any other. Thus Weiss's dictum that the principles of logic are on a par stands unimpugned by Church's discovery, if by it he simply meant that there is no such preferred order of being. Indeed, Church's theorem does not even indicate any *one preferred* order of knowing, but merely indicates that our finitude compels us to adopt, in regard to propositional functions of more than one variable, *some order of knowing or other,* rather than an immediate apprehension of truth, or (what surely differs only in degree from this) a mechanical method similar to truth tables or Venn diagrams.

Distinction may be made at this point between two kinds of systems of propositions — the *normal* and the *binormal.* A binormal system is what we have previously described as solvable; that is, there must be some effective method to determine whether or not a given proposition is a theorem of that system. A normal system is a system with an *ordo cognoscendi,* that is one in which theoremhood is to be validated by means of a *series* of propositions of a certain kind. Given any such series it must be possible to tell whether it *is* of that kind; but it need not be possible, given a formula, to tell whether it is a theorem of that system. The property of being a *proof* in such a system is subject to mechanical check, but the property of being a theorem not necessarily so. It was normality in this sense that we regard as essential to any system of logic which could claim universal assent.

Imagine a country so large (it would have to be infinitely large), that we had no effective way of checking whether or not there was a series of roads joining any given

town A to given town B. Imagine also that there are maps on sale such that whenever there is such a route from A to B, there is a map, accessible to us (but we don't always know where to buy it), which proclaims this fact. (The routes are always finite, so they can be incorporated in the compass of a map.) Then this country resembles a system which is normal but not binormal. Such a system would be so complex that we have no effective way of checking whether or not there is a series of "roads" (inferential steps) joining a given "town" A (the axioms) to a given "town" B (a proposition whose theoremhood is in question). Nonetheless (since the system is normal), whenever there is such a route from the axioms A to B there is a "map" (a proof), accessible to us (in principle, by a trial and error method; but we don't always know how to find a proof when we want one, nor do we, of course, in all cases find one even whether there is one to be found).

What we have seen so far is firstly, that every logic worthy of the name is normal; secondly, that if a logic and the "negation" of that logic, *i.e.*, the set of formulae refutable therein, are both normal, then the logic itself is binormal (solvable); thirdly, that there are logics which are normal but not binormal; fourthly (and this is Church's theorem), that this phenomenon of non-binormality arises at an altogether elementary level (but not quite the most elementary); fifthly, that this implies that we must select *some ordo cognoscendi;* sixthly, that it does not imply the preeminence of any *one ordo cognoscendi;* seventhly, that there is still less imputation of any *ordo essendi,* i.e., of the principles of logic not being on a par. The necessity of the axiomatic method beyond the theory of propositional functions of one variable is a reflexion of human finitude.

Before passing on to Gödel's result, it may be wise to take up these last two words and to reflect on Church's theorem as an anthropological fact. Scattered but crucial reference has been made in the preceding pages to the human ability to "learn" (techniques) or to "recognize" (proofs). The use of these psychologically toned expressions

was quite deliberate; in the author's view, the theorems of Church and Gödel are psychological laws. Mr. E. H. Galanter of the Department of Psychology, University of Pennsylvania, described them in conversation with the author as "the only known psychological laws comparable in exactitude with the laws of physics." We shall defend his view in two stages: a defence of normality and binormality as psychological concepts, and a defense of Church's theorem as a psychological law. It will be evident from the sequal that a similar discussion of Gödel's theorem can be given.

Let us for the sake of definiteness temporarily assume a formalistic position; that is, let us abstract from the interpretation of formulae and concentrate only upon their typographical shape. (This is certainly not done with the intention of adopting any philosophical stand according to which the formulae of logico-mathematical systems are "meaningless strings of marks," but merely as a directive of attention for the scope of the present paragraph.) Then it is evident that membership in a given formal system is a perfectly definite physical property of inscriptions. It is of psychological interest to know whether or not organisms can be trained to produce an indefinitely long series of objects all of which have a given physical property, and such that a replica of every conceivable object having that property will show up, barring the organism's untimely death, in a finite time. For instance: "Can an organism be trained to write down fractions in such a way that every conceivable fraction (-type) will show up, barring the organism's untimely death, in a finite time?" Answer, Yes. If it is possible so to train organisms, the property in question may be called constructive. Next observe that there are certain properties of inscriptions and other things such that organisms can be trained to respond differentially to the presence and absence of those properties. Thus it is psychologically interesting to ask: "Is it possible so to train organisms that they will respond differentially to the presence or absence of the (physical) property of being a fraction (-token)?" Answer, Yes. Let us call such properties effective. Then I maintain that to say that a system is normal is simply to say

that the property of being an asserted sentence of that system is constructive, and that to say that it is binormal is to say of the same property that it is effective. And Church's theorem is an illustration of the psychological circumstance that certain properties are constructive without being effective. If we make the "trainer" identical with the organism trained we obtain the following result: It is possible to *set oneself a program*, which is perfectly definite in the sense that one is able to execute it and to know with assurance that one *is* executing the program which one set oneself, and yet the issue of the program may be radically unpredictable in the sense that given any object, one has in general no means of telling ahead of time whether a similar object will or will not be produced in the course of the program's execution. This indeterminacy does not derive from the objective character of the series, still less from the unenvisaged irruption of alien factors thereinto, but rather from a radical limitation in man's power of envisaging the total outcome of a series of acts whose generating principle is envisaged with complete precision. Were man's power of recognition rendered commensurate with his power of reasoned production, either by an increase in the former or by a diminution of the latter, the possibility of mathematical creation would cease forthwith. The burden of Church's theorem is that these powers are *incommensurable*, i.e., that our creativity outruns our capacity for anticipating the outcome of that creativity.[22] Since if this were not the case it would be inappropriate to speak of creation, we may say that the theorem asserts creativity even on the premathematical level of logic: *i.e.*, that, Wittgenstein to the contrary, "in logic there are surprises."

It ought to be pointed out here that normality and binormality are defined in mathematical and not in psychological terms. Nevertheless, they are offered as explicata for the concepts of constructivity and effectivity respectively, or rather, for specializations of these to the field of formal systems. That normality is coextensive with the existence of a me-

[22] Cf. Paul Weiss, *Nature and Man*, p. 35.

chanical test for correctness, and binormality with the existence of a mechanical test for provability, are of course psychological hypotheses, as is the related tenet that "unsolvable" in its precise *mathematical* sense corresponds exactly to those (classes of) problems which we in the *everyday* sense have no general method of solving. Nonetheless they are hypotheses which are in the highest degree confirmed; in a far higher degree, therefore, than any other non-trivial psychological hypothesis of remotely comparable precision. Not the least surprising aspect of their confirmation is the fact that three mathematicians [23] working independently on the clarification of the concept of recognizability emerged with three seemingly totally unrelated analyses; the fact that these three were later discovered to be coextensive is, in itself, considering the diversity of their approaches, confirmation of an order rarely if ever encountered in psychology.

This concludes what we have to say concerning Church's theorem. The remainder of this paper concerns Gödel's related and historically earlier result on undecidable statements. Although the technical means employed in the proofs of the two theorems are intimately related, and although they have perhaps been made to seem more alike than they are by a not always consistent use, in the literature, of words like 'undecidable,' there are two quite crucial distinctions between unsolvability in the sense of the present paper, which is the subject of Church's theorem, and undecidability in the sense in which we shall henceforth use that word, which is the subject of Gödel's. In the first place unsolvability is, as was stressed above, a property of classes of problems while undecidability is a property of individual problems; in the second place unsolvability is an absolute property while undecidability is relative to a particular formal system. Undecidability in such a system means simply that no investigations carried out within that system can disclose whether a certain individual sentence A is true or false; *i.e.*, that neither 'A' nor 'not-A' is provable

[23] Gödel [11], Church [3] and Turing [33]. The tale is told in Quine, *Mathematical Logic*, p. 292.

in that system. Undecidable statements are therefore nothing new; there are many historically known axiomatic systems which do not determine completely the properties of the entities axiomatized. For example, the axioms of *Principia* do not determine how many individuals there are; the axiom of infinity, which is needed as a hypothesis for the development of mathematics in that system, is neither provable nor refutable therein, *i.e.*, is undecidable. Gödel's discovery has two sides. In the first place it reveals that many systems in which intuitively we might expect completeness as a matter of fact contain undecidable statements. This in itself is by no means disastrous; all it means is that we should be prepared to make additions to certain systems which we had hitherto supposed not to require any. The second side of the theorem, however, is more disturbing; it states that there are certain mathematical disciplines which can never be completely formalized. More precisely: whatever veridical additions we make to the conventional or indeed to any veridical axiomatizations thereof, there will always remain undecidable statements. The only requirement placed upon these systems is one from which little comfort can be drawn, namely the requirement that they should be normal; and we have seen above that non-normal systems are unable to coerce assent. It remains to describe the nature of these mathematical disciplines which cannot thus be caught in any finite (*i.e.*, normal) net.

Roughly speaking, their essential character is that they are adequate for number-theory. This phrase may be clarified by listing certain things which are considered necessary for "number theory" in this sense, and certain things which are not. In the first place, the "numbers" referred to are whole numbers, positive and zero. (The addition of negative numbers and/or fractions, or the omission of zero, neither betters nor worsens the situation; yet paradoxically enough, the theory of the continuum, in a form which presents the isolation, by any unique common property, of the integers, has recently been shown (by Tarski) to be not only exempt from Gödel's argument but even binormal!) In the second place, the theories subject to this argument deal with the addition and multiplication of

whole numbers, and with no other operations thereupon than can be defined in terms of these two together with the familiar logical operations (and, or, not, for some x, for all x). The theories of addition or multiplication *alone*[24] have no Gödel problem and are even binormal. Finally it must be noted that the theories concerned do not deal with *classes* of numbers but only with numbers themselves. (It happens that Gödel's original proof of the theorem concerned a system built on *Principia* lines with classes of numbers, classes of classes, and so ad infinitum; but these are dispensable and in the Princeton mimeographed notes were dropped.)[25]

Gödel's theorem is as follows: any system adequate for number theory in the above sense contains at least one undecidable statement.[26] This represents a *double* defect in such a system. An ideal treatment of number theory would consist of a mechanical test of truth, comparable to truth-tables, for all statements expressible in the notation of that theory. The *first* defect is that no such ideal is attainable; *i.e.* there is no binormal formulation of number theory any more than there is of quantification theory. The *second* defect is that no formulation of number theory can include all the truths and exclude all the falsehoods. This is much worse than the situation in quantification theory; we saw above that there exist formulations of that theory in which all and only the valid formulae can be proved, even though we could have no general method for finding whether a given formula could be proved or not. But in regard to number theory even this more modest objective proves unattainable. Not only do we lack (as in quantification theory) a method for finding whether

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[24] For this and the other results here cited, *cf.* Quine, *Methods*, p. 247, and references therein given.

[25] As a matter of fact the Princeton system does deal with *functions* of number as well as numbers themselves. But these are irrelevant to the proof, which is applicable to a wide variety of systems.

[26] And therefore infinitely many. For if it contained only one or any finite number, we could add these as additional axioms, and the resulting system would be complete. But this is impossible by Gödel's theorem itself.

a given formula is provable, but even if we knew that it was not provable, we would have no reason to conclude that it was false. It might simply have been *missed* by the axiomatization. Any (normal, veridical) formulation of number theory misses some truth or other. This is the intuitive gist of Gödel's theorem.

Of Gödel's proof we shall not give an account here. It suffices to warn the reader against two misunderstandings that not infrequently arise. In the first place, it is sometimes said that the proof is self-referential, and therefore of such a nature as would be ruled out by the theory of types. To this it may be answered that Gödel's original proof is indeed self-referential, but that a detailed examination shows this self-reference to be harmless. More significant than this perhaps is the fact that Post, in the paper cited in footnote 2, has produced a proof which is not self-referential at all.

In the second place, Gödel's proof *actually exhibits* an undecidable statement. Undecidable, that is, in a particular formal system, and with indications as to how for any formal system adequate for number theory, a statement undecidable in that system may be exhibited. (Recall that undecidability is relative to a specified formal system.) Now Gödel's proof results in showing that the statement exhibited is in fact true; and this circumstance may appear paradoxical at first blush. How can it be at the same time true and undecidable?

In order to understand this, it is necessary to make a distinction between the *object-language*, the language which is shown to be incomplete, and the *metalanguage*, the language in which the incompleteness proof is carried out. The metalanguage is of course German in Gödel's first paper and English in his second. More precisely it is a fragment of German and English respectively, which fragment could with only routine difficulty be formalized as a normal system. The sentence constructed is undecidable in the object language, provable in the metalanguage.

So far however we have spoken only of provability in the two languages, and not at all of truth. Truth we expect to be an absolute property of propositions; one does not speak

of truth in a system, but simply of truth. We assume that the metalanguage is veridical, that is that whatever is provable in that language is true. Such an assumption savours of Platonism, and we must see whether or not it can be avoided. More specifically, we must answer the following question:

Does the very meaningfulness of Gödel's theorem presuppose Platonism, *i.e.* does it presuppose that we can significantly speak of the truth of mathematical statements apart from any formal system?

The reason why we are inclined to regard the very meaningfulness of Gödel's theorem as presupposing Platonism is as follows; the theorem says there is no mathematical system which contains all mathematical truths and excludes all mathematical falsehoods. If this is to mean anything, we must have an idea of mathematical truth which is not the same as mere provability, but represents rather an ideal to which provability is an approximation. Gödel's theorem is then a statement to the effect that it can never be more than an approximation. If we have no idea of an absolute sense of mathematical truth, it may be argued, Gödel's theorem is not merely false but senseless, in the same way as the statement that man can never be ethically perfect is senseless to a radical relativist in ethics. We shall present in turn an answer, a rejoinder and a counter-rejoinder to this argument.

The answer is as follows: To say that Gödel's theorem is senseless is to say that nothing whatsoever has been proved in his two papers. Now surely at least this much has been proved; that in any consistent system which is "adequate for number-theory" (this can be stated without reference to truth) there is a formula (*i.e.* a string of marks) which can be neither proved nor refuted in that system, *i.e.* is such that neither it nor the result of writing a wiggle of a certain sort in front of it can be obtained from certain given strings of marks (the axioms) by certain pencil-and-paper manipulations (the "rules of procedure"). Hence a completely syntactical interpretation of the theorem can be given, in which neither truth as distinct from provability nor any other Platonistic notion is presupposed.

To this the following rejoinder can be made. Let X be the undecidable statement. Then since, as was pointed out above, the object-language referred to in Gödel's theorem contains the principle of excluded middle, 'X or not-X' is provable in that language. Now if truth and provability are not to be distinguished, 'X is true or not-X is true', being provable, must be true. But if it is true, then of course either X is true or not-X is true; and, again using the identity of truth and provability, either X or not-X must be provable, which is precisely what the theorem denies. Hence a contradiction results from identifying truth and provability, and there is, if Gödel is not to be caught in a flagrant contradiction, a realm of mathematical truths to which extant and indeed, any possible formal systems are but poor approximations. Hence, in short, Gödel presupposes Platonism.

There are various counter-rejoinders which might be made to this. It might be said in the first place that we should take the conventionalism of the last paragraph but one seriously, that is, that the argument just given errs in regarding the assertions of the object-language as significant statements at all, and in particular in regarding the law of excluded middle in the object-language as more than a convention about how we are going to use wiggles and wedges. This is a more fruitful answer than might be supposed, and we will return to it later. But first we shall consider another line. It could be said that all that has been pointed out in the argument from excluded middle is a *lack of closure* of a certain kind in the object-language. That is, it is possible for that language to present us with an alternative (X or not-X) without presenting us with either member of that alternative. This is a closure which for some reason we intuitively regard as desirable, but which, in systems possessing excluded middle, we are fated never to get. As a matter of fact it is quite attainable, if we reject excluded middle in the object-language, and admit, with the intuitionists, p-or-not-p as a theorem only if one of the alternatives, p or not-p, has previously been proved. But there is a more important type of closure declared by Gödel's theorem to be unattainable in *any* consistent and

normal formulation of number theory; namely, that there exists for any such system a *law* concerning numbers such that every instance of that law is provable, while the law itself is not. Such in fact is the nature of Gödel's original undecidable statement. If the essential point of the theorem is merely that such closure is unattainable, it is possible surely to admit the significance of the result without thereby committing oneself to Platonism as a precondition of its meaningfulness.

Before we consider the acceptability of the radically formalistic position mentioned above as another possible rejoinder to the suggestion that Gödel presupposes Platonism, it will be desirable to discuss in more detail the connection between the type of closure just mentioned and the fact that the undecidable statement is shown to be true in the very act of showing it to be undecidable. The situation is as follows: In the course of the proof we show that a certain law concerning numbers holds. We show also that every *instance* of that law is provable in the object-language, but that the law itself is not. If every number is such that it can be shown in a system to have a certain property F, it does not follow that we can prove in that system that every number has the property F. This can be made plausible by the following reflection as to the way in which such universal laws are usually proved in formal systems: They are almost always proved by constructing a proof with a *free variable* in place of a number, in such a way that the result of writing any particular number in place of that variable yields a correct proof. Now clearly one can only hope to prove a general law in this fashion when there is a certain common pattern shared by all the proofs of the individual cases. If the proofs for different numbers follow different patterns, it is not surprising that the general law itself should not be forthcoming. Most of the classical *undecided* problems of number theory (we do not yet know whether they are *undecidable*, or whether we just do not happen to have hit on their solutions yet), are of precisely this kind: i.e. they are general laws whose verification or falsification *in any particular case* is well within the powers of a high-school student. But the verifications follow such diverse

patterns that no one has yet had the ingenuity to reduce them to a common form.

It is *desirable* that whenever every instance is provable, the law itself should be provable too. It is the gist of Gödel's theorem that this is not and cannot be possible in general. Although, as stated above, it may be merely an unhappy accident that no one has yet reduced all the instances of e.g. Fermat's conjecture to a common form, nonetheless there are other cases known where this is no accident, but an unavoidable necessity so far as our customary systems of arithmetic are concerned. (The last eleven words are essential of course; provability is relative to a system.) The particular form of incompletability here discussed, inasmuch as it gives a natural reason why our choice between two alternatives should not be completely arbitrary, inclines one to the view that the formulae provable in any particular system are but a selection from a wider class of Platonic truths. But if the neutral term "absence of closure" is substituted for the term "unprovability of a true statement," it must be conceded that the acceptance of Gödel's findings as meaningful does not compel the acceptance of Platonism.

Let us now discuss, as promised, the ultra-conventionalistic view according to which Gödel's discovery has nothing at all to do with Platonism because it only concerns marks on paper; it merely states that there is a mark A such that neither that mark, nor that mark preceded by what for some obscure psychological reason people call a negation sign, can be obtained from certain other marks called axioms by certain pencil-and-paper operations called inferences. Notice that we are here being formalistic about the object-language only; since we are trying to show that Gödel's result can be given a meaning without recourse to Platonism, we cannot be formalistic about the *metalanguage* and say that Gödel's theorem *is* only marks on paper, for that would mean that it cannot be given a meaning at all. The disturbing thing about this view follows from one very small word above: we said that neither A nor its negation *can* be "inferred" from the axioms. It does not say that no derivation *does* exist now, and it does

not say that no derivation *will* exist; for this would hold even for the propositional calculus (which is even binormal) on account of the finitude of man's stay on earth as a calculator and constructor of derivations. It says that it is essential to the nature of a certain *habit*, which is presumably what a formal system is, that it can never lead to a certain outcome. Of course we could make the formal system a Platonic object instead of a habit, even if we were formalistic about it and refused to assign any meaning to its expressions. The points to bear in mind are, however, firstly that we cannot make it merely a physical (written) object, and secondly that we are concerned here to see just how far we can go without embracing Platonism.

The mention of habits suggests that we should attempt to parallel our earlier psycho-anthropological discussion of Church's theorem with reference to Gödel's. It could be inferred from what we said above concerning closure that, whether or not we accept Platonism, there is a certain property of arithmetical expressions that we are sometimes inclined to call truth. It is namely a property shared by all those elementary arithmetical equations which we can "verify" by direct calculation, like $2 + 3 = 5$; by all general arithmetical laws all of whose instances have that property; and by certain formulae related to those mentioned by certain other closure principles which need not be detailed here (as that the conjunction of two "true" statements is "true"). Whether the word "true" is a misnomer or not, and whether, if no misnomer, it must be interpreted as referring to a transcendent realm of reality, are questions we here leave unsettled; we merely observe that we have not seen any *compelling* reason to infer Platonism from Gödel; all that is required for our present purposes is that so-called truth in the science of natural numbers is a well-defined property of expressions, if not of abstractly existing Platonic propositions.

Now Gödel's theorem may be interpreted as saying simply that this property is not normal. This gives us a third type of character, above the constructive and effective.

The effective character is one whose presence and absence we can detect. "Truth" in the propositional calculus is effective, but "truth" in the general theory of propositional function is not. This latter property is, however, constructive, *i.e.* we can set ourselves a program which will eventually turn out anything whatsoever which has that property. But we cannot in general tell in advance of the production of such a thing whether or not it has that property. The third kind of character, whose existence is disclosed by Gödel's discovery, I propose to call the prospective. A prospective character is one which we cannot either recognize or create by a series of reasoned but in general unpredictable acts. (By unpredictable, of course, I do not mean without a generating principle, but merely of such a kind that one cannot tell in advance whether a given object will be produced.) Not only must recognizability, the existence of an effective criterion, but even reasoned producibility must be sacrificed in the case of prospective or Ideal notions, which may thus be perhaps not too fancifully assimilated to Kant's Ideals of Reason, as goals to which our reason irresistibly compels us even when that reason itself proclaims to us their unattainability.

If it be asked in what department of traditional philosophy this classification of ideas takes its place, however, the answer must surely be along the lines of Locke and Hume rather than of Kant. What concerns us here is the mode of building up complex ideas. In particular, such questions as the way in which we acquire our idea of infinity lie not too far removed from the present discussion. We shall not endeavour to deal with this question here, however, since we regard the theorems rather as reports on the phenomenology of ideas than as accounts of their genesis. More pertinent will be a succinct and rigorous definition of the three classes of ideas mentioned, without restriction to *mathematical* ideas, followed by an illustration of the application of this trichotomy to other non-mathematical realms.

A character is effective if human beings may be so trained as to respond differentially to its presence and its absence.

A character is constructive if human beings may be so trained as to execute a program in the course of which a replica of every object having that property will appear, barring the untimely death or distraction from his purpose of that human being. By a "replica" in this connection is meant an object not differing from the original in any way which could confer upon it or detract from it the character declared by this definition to be constructive.

A character is prospective if it is neither effective nor constructive, and if nonetheless some human being clearly entertains an idea of that character.

From the realm of aesthetics, and more particularly of musical aesthetics, we may pick the following illustrations of these three categories of ideas. The character of being a consonance in the classical sense of the word is an effective character. The character of being a chord which will, under suitable provocation, be used in a composition, by a certain composer, is from the point of view of that composer, a constructive character, since he will assuredly recognize that provocation when it arises, but cannot in general be expected to realize ahead of time whether such a provocation will or will not arise.

The character of beauty itself, unless we consider with Dewey that it is an immediately recognizable quality of experience, may reasonably, at least as a hypothesis, be regarded as a prospective character. This means that not only can we not guarantee to recognize it when we encounter it, but also that there exists no formula or attitude, such as that in which for example the romantics believed, which can be counted upon, even in a hypothetical infinitely protracted lifetime, to create all the beauty that there is.

The analogue of Gödel's theorem for aesthetics would therefore be: there is no school of art which permits the production of all beauty and excludes the production of all ugliness. And the analogue of Church's theorem, a weaker

statement of course, would run: there is no token (as pleasure or the like) by which you shall know the beautiful when you see it.

The theory of ethics as representable in tokens or effective characters has something in common with Kant's position or with the Mosaic ethic; the view of them as programs has more the romantic character of a view of one's life as a mission; while the idea of the good as a lure, as something whose majesty is too vast to permit of its being incorporated either into a body of laws or into even a *Weltanschauung* of unforeseeable outcome, has an almost mystical quality.

It would be presumptuous for the author to pursue these thoughts further here. It is only too easy in such connections to slip into high-sounding generalities which bring distrust on the whole method they are intended to exemplify.

The author feels, however, that these hints may help himself and others to make more precise and fruitful the future sciences of ethics and esthetics. Mathematical logic has made clear the existence of three grades of ideas or characters. If there exist these grades, and if there exist, in the upper two, features which compel us to speak, positively of man's creativity and envisagement of ideals, and, negatively of certain limitations imposed on him by the finitude of his thought, surely this is a matter for general philosophy to take up and develop. The only importance of the role of mathematical logic in this line of thought is the crystal clarity which the abstract nature of its subject matter imposes. It was here that we first had conclusive evidence of an essential rather than an accidental limitation of knowledge, and of the fact that this ignorance is but the obverse of creativity. The next step does not lie in facile comparisons of ethics and esthetics with logic, but, I think, in a very precise development, on the basis begun above, of epistemology and the phenomenology of ideas.

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BIBLIOGRAPHY

1. Church, A. "A note on the Entscheidungsproblem." *The Journ. of Symb. Log.* Vol. 1, pp. 40-41, 101.
The original paper on Church's theorem. Presupposes 12 or its equivalent, and 10 or 11.

2. Church, A. "An Unsolvable Problem of Elementary Number Theory." *Am. Journ. Math.* Vol. 58, pp. 345-363.
The first application of Church's methods to the production of an unsolvable ***mathematical*** i.e. numerical problem. Cf. nos. 5, 13 and 14 below.

3. Church, A. *Mathematical Logic.* Princeton University, 1936, mimeographed.
Supplementary to no. 4. The two should be read in close conjunction. This has no connection with another mimeographed work of the same author, entitled "Introduction to Mathematical Logic."

4. Church, A. *The Calculi of Lambda-Conversion.* Princeton University Press, 1941.
Offers a formal characterization of the Constructive and the Effective in mathematics, and develops a logic in which all constructive logico-mathematical ideas may be defined, and such that every idea definable in that logic is constructive.

5. Davis, M. "Arithmetical Problems and Recursively Enumerable Predicates." *The Journ. of Symb. Log.* Vol. 15, pp. 77-78.
Another unsolvable mathematical problem, simpler than that of no. 2, and another undecidable mathematical proposition, simpler than that of nos. 10-11. Such researches as this and nos. 14-15 below are important in that they bridge the gap between the undecidability situations uncovered by the early work of Gödel and Church, and the kind of problems on which mathematicians actually work.

6. Findlay, J. "Gödelian Sentences — a Non-Numerical Approach." *Mind,* vol. 51, pp. 259-265.
A masterpiece of popular exposition, intelligible to the layman yet as rigorous throughout as it is possible for non-formalized discourse to be, of the actual proof of Gödel's theorem.

7. Fitch, F. B. "A Basic Logic." *The Journ. of Symb. Log.* Vol. 7 pp. 105-114.
Another system of logic for which the same properties are claimed as for the system of no. 4. That it has these properties is not shown in the present paper, but in no. 9 below.

8. Fitch, F. B. "An Extension of Basic Logic." *The Journ. of Symb. Log.* Vol. 13, pp. 95-106.
In the terminology of the present paper, this could be described as a direct assault upon the Prospective, disregarding human limitations.

9. Fitch, F. B. "Representations of Calculi." *The Journ. of Symb. Log.* Vol. 9, pp. 57-62.
See no. 7 above.

10. Gödel, K. *On Undecidable Propositions of Formal Mathematical Systems.* Princeton University, 1934, mimeographed.
This and the following are the original papers on Gödel's theorem. Presupposes the first vol. of no. 13 or its equivalent.

11. Gödel, K. "Uber formal unentscheidbare Satze der Principia Mathematica und verwandter Systeme I." *Mon. für Math. u. Phys.* Vol. 38, pp. 173-198.
See no. 10 above.

12. Hilbert, D. and Ackermann, W. *Grundzuge der theoretischen Logik.* G. Springer, Berlin, 1938.
A general manual of elementary logic, but so written as to convey to the beginner in a very clear fasion just what is the problem declared unsolvable by Church's theorem.

13. Hilbert, D. and Bernays, P. *Grundlagen der Mathematik.* 2 vols. G. Springer, Berlin, 1934-9.
An encyclopaedic work indispensable to the research worker. Presupposes nothing, but not for the casual reader. The first volume deals with the same material as no. 12, but at greater length and from a different viewpoint; it also deals with the axiomatic development of arithmetic, a topic essential to the comprehension of Gödel's papers. The second volume deals amongst other matters with the theorems of Gödel and Church. In particular the discussion of Church's theorem on pp. 392-421 of vol. 2 is an almost obligatory scolion to Church's own three pages. There is little in the whole 969 pages of this work which is not quite closely relevant to the topics of the present paper.

14. Kalmar, L. "Egyszeru pelda eldonthetetlen aritmetikai problemara." *Matematikai es Fizikai Lapok,* Vol. 50, pp. 1-23.
With this and the following work, the domain of the known-to-be-unsolvable moves perilously close to the quotidian work of the mathematician.

15. Kalmar, L. "On Unsolvable Mathematical Problems." *Proc. X Internat. Congress of Phil.,* Amsterdam 1948, vol. 1, pp. 534-536.
See no. 14.

16. Kalmar, L. and Suranyi, J. "On the Reduction of the Decision Problem." *The Journ. of Symb. Log.* Vol. 4, pp. 1-9, vol. 12, pp. 65-73, vol. 15, pp. 161-173. More installments are promised.

    The *locus classicus* for *partial* solutions of Church's unsolvable problem.

17. Kleene, S. C. "General Recursive Functions of Natural Numbers." *Math. Ann.*, Vol. 112, pp. 727-742.

    The very first characterization of the effective (as the *recursive*) and of the constructive (as the *recursively numerable*) are to be found in Gödel's papers nos. 10 and 11. These apply only to characters of whole numbers (as distinguished from *e.g.* the characterizations in nos. 3-4 and 7, which apply to all mathematical characters whatsoever. Of course a characterization of these notions outside of mathematics has not yet been found at all). Despite this restriction, however, the concepts of recursiveness and recursive enumerability were fruitful enough to inaugurate a whole new branch of mathematics "of the same fundamental importance as algebra and topology" (Rosenbloom.) The paper of Kleene represents the first contribution to this branch of mathematics, and still provides a good summary of basic theorems for the beginner.

18. Kleene, S. C. "Lambda-Definability and Recursiveness." *Duke Math. Journ.*, Vol. 2, pp. 340-353.

    Proves that two characterizations of the effective and of the constructive (that of 10, 11, and 17 on the one hand, and that of 3-4 on the other hand) arrived at from totally different points of view, are equivalent to one another.

19. Kleene, S. C. "On the Interpretation of Intuitionistic Number Theory." *The Journ. of Symb. Log.*, Vol. 10, pp. 109-123.

    Intuitionistic mathematics has often been characterized as mathematics which accepts only those entities which can be "constructed." Unfortunately the intuitionists themselves have never given a precise account of what this means. Kleene here attempts to characterize intuitionistic constructibility from the standpoint of the "recursive" or "normal" constructibility which is one of the topics of the present paper. Presupposes a thorough knowledge of recursive function theory (*cf.* nos. 10-11, 13, 17 and 25 in this list), and at least a rudimentary acquaintance with intuitionism. A bibliography of intuitionism is not within our scope here, but a sufficient knowledge may be gained by following up Kleene's own references.

20. Kleene, S. C. "Recursive Predicates and Quantifiers." ***Trans. Am.*** *Math. Soc.*, Vol. 53, pp. 41-73.
An investigation of the Prospective, in which it appears that the Prospective is itself stratified into a hierarchy of levels of prospectivity, of which each is a generalization of the preceding, much as the Prospective as a whole is a generalization of the Constructive, and the Constructive of the Effective. Cf. nos. 22 and 30.

21. Myhill, J. R. "A Complete Theory of Natural, Rational and Real Numbers." *The Journ. of Symb. Log.*, Vol. 15, pp. 185-196.
Yet another formal characterization of the Constructive, more restricted in its applicability than 3-4 or 7, but perhaps in some ways a little simpler.

22. Mostowski, A. "On Definable Sets of Positive Integers." *Fundamenta Math.*, Vol. 34, pp. 81-112.
An investigation of "the hierarchy of the Prospective," done in complete independence of no. 20 on account of the isolation of Poland during the war, yet arriving at substantially the same results. One should not however content oneself with only one of these papers.

23. Nelson, D. "Constructible Falsity." *The Journ. of Symb. Log.*, Vol. 14, pp. 16-26.
See no. 24.

24. Nelson, D. "Recursive Functions and Intuitionistic Number Theory." ***Trans. Am. Math. Soc.***, Vol. 61, pp. 307-368.
This and the preceding paper are continuations of no. 19.

25. Peter, R. ***Rekursive Funktionen.*** Akademiai Klado, Budapest, 1951.
An encyclopaedic treatise on the theory of recursive functions (*i.e.* of the Effective and the Constructive in the realm of whole numbers; *cf.* no. 17), indispensable for the research worker. The conclusion is forced upon one over and over again throughout the book that the Effective, like the Constructive (no. 28) and the Prospective (nos. 20 and 22) is stratified into a series of levels of which each is a generalization of all its predecessors. One may perhaps speculate that when the concept of the Effective is extended in a rigorous fashion to non-mathematical notions, some of its lower grades may be found to correspond in a natural manner to patterns of intelligent behavior in some of the lower organisms. But it must be stressed that not even the purely mathematical side of the problem of "levels of effectiveness" has been worked out in anything remotely resembling detail, and that Mostowski is reported to have worked in Warsaw for a whole year on a complete account of this stratification without making any progress.

26. Post, E. "Finite Combinatory Processes." *The Journ. of Symb. Log.*, Vol. 1, pp. 103-105.
Yet another characterization of the Effective. Stimulating alike to the mathematician (because of all known such characterization this alone is not yet known for certain to be equivalent to Gödel's original concept of recursiveness), and to the psychologist, who will find here something much nearer home than anywhere else in this bibliography. Probably the most fruitful starting-point for the extension of the concepts of this paper to non-mathematical topics.

27. Post, E. "Formal Reductions of the Combinatorial Decision Problem." *Am. Journ. of Math.*, Vol. 65, pp. 197-215.
Another characterization of the constructive. The methods here developed for dealing with the theory of recursive functions (nos. 17 and 25) give profound and surprising results with lightning speed compared with the older methods of Gödel and Kleene, at least in many cases. For substantiation of this claim, cf. nos. 5, 28 and 29. In the author's opinion, the three works of Post here named are second in importance only to the original papers of Church and Gödel.

28. Post, E. "Recursively Enumerable Sets of Integers and their Decision Problems." *Bull. of the Am. Math. Soc.*, Vol. 52, pp. 284-316.
Perhaps the most profound paper on the Constructive and on the limits of the Effective yet written. Sets itself the question whether or not the Constructive exhibits a stratification as the Prospective certainly does (nos. 20 and 22) and as the Effective probably does (no. 25). The question proves to be ambiguous and no satisfactory answer is reached. None the less, on the way the superior power of Post's methods is irrefutably demonstrated, in the effortless way in which many results (especially Gödel's theorem itself) are obtained, which cost their original discoverers much sweat and tears. Many profound new results are also obtained. Presupposes no. 27.

29. Rosenbloom, P. C. *Elements of Mathematical Logic*. Dover Press, 1950.
A miracle of lucid and terse exposition. In the first three chapters a full account of elementary mathematical logic is given, from the "comparative" standpoint, *i.e.* many different systems are presented and compared. This part of the book will enable the beginner, starting from scratch, to understand at least the main points of many of the contributions to the journals. It will do this faster than any other book. If this were its only virtue, it would merit a place in this list comparable say with no. 12. But in addition to this, its fourth and last chapter contains the only elementary introduction to

Post's work to be found in the literature. Elegant and simple proofs of Gödel's and Church's theorem are to be found therein. The person who has little or no symbolic logic, yet wishes to get the heart of the matters discussed in this paper with a minimum of time and trouble, could not do better than to read this book of 214 pp., followed by nos. 27 and 28 in that order.

30. Rosser, B. "An Informal Exposition of Proof of Gödel's Theorems and Church's Theorem." *The Journ. of Symb. Log.*, Vol. 4, pp. 53-60.
A semi-formal rather than an informal paraphrase of 10-11 and 1, good as an introduction thereunto. Requires a good grounding in symbolic logic.

31. Rosser, B. "Extensions of Some Theorems of Gödel and Church." *The Journ. of Symb. Log.*, Vol. 1, pp. 87-91.
Shows that even a being with direct insight into what for a human lies in the realm of the Prospective might encounter unsolvability and undecidability situations. This naturally leads to the idea of a hierarchy of higher and higher Prospectives, so that the paper is evidently not far removed in its subject-matter from 20 and 22. But an exact statement of the relation between Rosser's idea and those of Kleene and Mostowski has not yet been found.

32. Turing, A. M. "Computability and Lambda-Definability." *The Journ. of Symb. Log.*, Vol. 2, pp. 153-163.
Shows that the criteria of effectiveness of no. 33 are equivalent to those of nos. 3-4.

33. Turing, A. M. "On Computable Numbers." *Proc. of the London Math. Soc.*, pp. 230-265, 544-546.
Another characterization of the Effective, this time in terms of what can be accomplished by a machine.

34. Turing, A. M. "Systems of Logic Based on Ordinals." *Proceedings of the London Math. Soc.*, Vol. 45, pp. 161-228.
Another direct attack on the Prospective, kin to nos. 8 and 30.

NOTE. Further reading is listed in the following places:

(1) The Index of Reviews by Subjects in the Journal of Symbolic Logic, end of vols. 3, 5, 10, 15.

(2) Pp. 196-198 of Rosza's Peter's book (No. 25 in the above list).

(3) Memorandum no. 2-LCR of the Burroughs Adding Machine Co., obtainable on request from their Research Division in Philadelphia.

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METAPHYSICS AND THE PARADOXES

HENRY VEATCH and THEODORE YOUNG

What sort of a language [1] is needed for metaphysics? True, "metaphysics" is a term that can cover a multitude of sins as well as a bewildering variety of philosophies. And yet it would seem that for many if not most types of metaphysics, a prime requisite is a language containing terms or concepts that might be loosely described as all-embracing. Thus an idealistic metaphysician would certainly not want to dispense with terms such as "Whole" or "Absolute." Further, he would doubtless insist that the peculiar import of such terms was precisely that of including everything, of leaving nothing out. "For what could there possibly be," one can imagine an idealist to argue, "but what it must be a part of, or be taken up into the Whole?"

And at the other extreme and in a somewhat different sense, a realistic metaphysician in, say, the Aristotelian tradition would be equally insistent that he must be able to consider and talk about beings or things or entities just as such, about being *qua* being, in other words. And he too would mean to employ such terms in a way that would be all-inclusive and all-embracing.[2] For he would say that there is literally nothing — unless it be just nothing — which could not be said to be in some sense or other, or to be something

[1] We hope that we may use this term without becoming implicated in the current tangle of ordinary and extraordinary, natural and artificial, language. Indeed, for our purposes the word "logic" would perhaps be better than the word "language," provided only that one would understand by "logic" an intentional logic, and more specifically an intentional logic that was adequate for the intention of those very things that are of concern to metaphysicians. The peculiar meaning and import of such an intentional logic, one of us has already attempted to discuss, see Veatch, *Intentional Logic*, New Haven, 1952, esp. pp. 7-28.

[2] Needless to say, the *way* in which an analogous term like "being" is all-inclusive is quite different from the way in which terms like "Absolute" or "Whole" are supposed to be all-inclusive. However, such differences in ways of inclusion are not our present concern.

or other. That is to say, outside being there is nothing. And this, as everyone knows, is simply the basis for Aristotle's celebrated denial that being can be a genus.[3]

Unhappily, this prime requisite of a metaphysical language, that it be thus all-inclusive and all-embracing, would seem to entail a violation of a peculiarly sacred principle of modern logic — the principle of levels of type or language. Thus to take, as just one example, the concept of being or that which is: surely this concept must itself be something that is. It is itself a being. And likewise, the concept of a thing is itself a thing, and the concept of an intelligible or knowable object is itself an intelligible or knowable object, and so on. In short, are not all such transcendental concepts, as the scholastics called them, in the nature of "predicable" concepts or self-membered classes? And if so, would they not involve precisely such "illegitimate totalities" as those which Russell exorcized many years ago?

Of course, the trouble with such "predicable" concepts is that to admit their legitimacy would apparently commit one to a language or logic that leads to paradox, and specifically to the paradox of the "impredicable." Hence with reference to the stated concerns of this paper, we might be said to be confronted with a dilemma: either we can, in metaphysics, try to retain a metaphysical language involving transcendental or "predicable" concepts, in which case we shall find ourselves confounded in logic by the paradox of the "impredicable"; or we can, in logic, try to avoid the paradoxes by a hierarchy of types or a scheme of metalanguages, in which case we shall be confounded in metaphysics by the fact that we can no longer talk about beings or things or realities just as such; that is to say, we cannot use terms that are properly or adequately all-inclusive.

To be sure, we are by no means the first to have been disturbed by some such dilemma. On the contrary, nearly all contemporary philosophers and logicians admit that the paradoxes are real paradoxes; and yet at the same time there

[3] *Metaphysics*, Bk. III, ch. III, 998b 22.

are many who are by no means happy about either a theory of types or a theory of metalanguages by way of solution. Thus a number of years ago, Professor Weiss, in a highly significant paper,[4] pointed out that so far as the theory of types was concerned, its very formulation involved its violation.[5] And more recently, Professor Fitch[6] has criticized the theory of types precisely on the ground that it makes for insuperable difficulties so far as the adequate discussion of ontological or metaphysical issues is concerned.

Nevertheless, even though many philosophers have been dissatisfied with the theory of types — and often have been dissatisfied with it precisely on the ground that its prohibition against all-embracing terms would render an adequate metaphysical language impossible — the usual procedure has been to accept the paradoxes at face value and then to try to slip between the horns of the dilemma by constructing some elaborate and esoteric system of logic that will neither lead to paradox nor yet involve anything like a theory of types.[7] But we should like to try a different procedure. Indeed, we are inclined to feel that all such complicated logical systems as are ingeniously constructed to enable one to steer precariously between the Scylla of the paradoxes and the Charybdis of the theory of types are really little more than much ado about nothing. Instead, if what one wants is a language that will be adequate to metaphysics, then it would

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[4] Paul Weiss, "The Theory of Types," *Mind*, n.s., Vol. 37 (1928), pp. 338-48.

[5] For a remarkably telling statement of this, see A. Koyré, "Manifold and Category," *Philosophy and Phenomenological Research*, IX (1948), pp. 12-13.

[6] Frederic Brenton Fitch, *Symbolic Logic*, New York, 1952, Appendix C, "Self-Reference in Philosophy," pp. 217-225.

[7] As Professor Ushenko (*The Problems of Logic*, London, 1941, pp. 72 ff) describes them, this characterization would apply to various logical systems proposed by Church, Quine, and Curry. It would also apply to Prof. Fitch's effort to construct a system of logic that will enjoy both "demonstrable consistency" and also "freedom from a theory of types," through the use of "a weakened law of excluded middle," plus a certain "novel principle." (Cf. his remarks *op. cit.*, pp. v - vii.)

seem that what one needs is no more than ordinary language,[8] or, as we should prefer to put it, no more than a simple intentional logic.[9]

But then what do we propose to do about the paradoxes, to which the use of mere ordinary language or of a supposedly naive intentional logic would seem inevitably to lead? To this our answer is that we do not think that the paradoxes are real paradoxes, at least not those of them [10] that are pertinent to logic in our sense of the word.[11] Instead, they are nothing more than sophisms,[12] which a careful analysis of the meanings or intentions involved should be able to expose. At least such is the thesis which we should like to defend in this present paper.

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[8] In using this term, we hope that our readers may not associate with it all of those painstakingly subtle implications with which it has sometimes come to be invested in current discussions emanating from the banks of the Cam and the Isis. Also, in suggesting that ordinary language suffices for metaphysics, we do not mean to rule out either the necessity or the possibility of developing a precise technical language for metaphysics. Rather our point is that with respect to the logical structure of any language that is adequate for metaphysics, all one needs is, as Mr. Ushenko has remarked (*op. cit.* p. 13), "a neutral medium, such as English, with a non-mathematical logic embedded in it."

[9] *Cf.* note 1, *supra.*

[10] It seems to us that most of the paradoxes that are ordinarily cited turn on issues that are more properly either mathematical or linguistic rather than logical. For example, with reference to the heterological paradox, Prof. Thompson ("The Logical Paradoxes and Peirce's Semiotic," *The Journal of Philosophy,* Vol. XLVI, 1949, 525-528) has very acutely shown that this paradox turns on questions of language rather than logic.

As to those paradoxes that are unmistakably relevant to logic, we think that there are no more than two or three of these: the liar, the "impredicable," and possibly non-self-membered classes.

[11] See notes 1 and 8 *supra.*

[12] Professor Koyré has insisted on exactly the same point ("The Liar," *Philosophy and Phenomenological Research,* Vol. VI, 1946, p. 346): "They, *i.e.*, the paradoxes, are just plain sophisms, for the most part, and a reformation of logic is not necessary to solve them."

Nevertheless, our attempted exposure of the sophism in the case of the paradox of the "impredicable" turns on a rather different principle from that employed by Professor Koyré.

To this end, we should like to begin by laying down a general and, we hope, rather obvious principle which we consider to be fundamental to all logical intentionality. And then we should like to try to show that in any formulation of the paradox of the "impredicable" this principle is necessarily violated, with the result that the paradox, instead of being a genuine paradox, turns out to be only a sophism.

The principle in question amounts simply to this, that no logical intention can ever intend just itself and nothing else. Or, since the terms "intention" and "intentionality" are no longer in general use among logicians, it might be better, even at the risk of misunderstanding, to restate the principle thus: No sign is ever a sign just of itself and nothing else. That is to say, every sign, in so far as it is a sign, must signify something other than itself.[13]

Such then is our principle. Nor do we propose to undertake anything like a formal demonstration of it in this paper. Instead, we simply advance it as something more or less evident, at least upon reflection. For instance, concepts are certainly logical intentions in the sense in which we are using that term, and if intentions, then they must be signs or meanings. But surely, no one can exhibit a concept that is a concept of nothing but itself. The thing is somehow fantastic. This is not to say, of course, that it is impossible to have a concept of a concept. Rather the point is merely that any concept which thus comes to be conceived, in the sense of being made the object of a concept, must somehow be dif-

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[13] Needless to say, this principle is an ancient one. In fact, John of St. Thomas mentions it as if it were something quite generally recognized in Scholastic philosophy. Thus having defined a sign as *"id, quod representat aliud a se potentiae cognoscenti,"* he then points out that one essential element in this definition is its emphasis upon the indispensability of an *"ordo ad alterum, scilicet ad rem, quae repraesentatur, quae debet asse diversa a signo."* He then adds, *"Nihil enim est signum sui nec significat se."* *Ars Logica*, II, P.Q. XXI, Art. I — Reiser edition (Turin 1929) p. 646.

For a more recent appeal to what would seem to be substantially the same principle, see A. P. Ushenko, *Power and Events*, Princeton, 1946, pp. 265-269.

ferent or distinguishable from the concept through which it is conceived.[14]

Moreover, what is true of concepts would also appear to be true of propositions. By way of illustration, let us consider the liar paradox. More specifically, let us consider that formulation of the liar which may be stated thus: "The proposition which I am now asserting is false." As is well known, the so-called Ockhamist solution [15] of this paradox is that the proposition in question is only a pseudo-proposition; and the ground for such a contention is the principle that no proposition can be its own subject. Nevertheless, be it noted that this principle on which the Ockhamist solution turns — the principle, *viz.*, that no proposition can have just itself for its subject — is really but a specific case of our more general principle that no intention can ever intend just itself and nothing else. The subject of a proposition is quite literally what that proposition is about. Hence to say that a proposition cannot have itself for its subject is but another way of saying that a proposition cannot intend, or be about, itself just as such.

Granting this basic principle of intentionality, our thesis is that the paradox of the "impredicable" can be very easily disposed of on the ground that it is in clear violation of this

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[14] In other words, in insisting on the possibility of concepts that are all-embracing and hence "predicable," or that involve self-reference, to use Fitch's term, we do not mean to deny the necessity of maintaining some sort of distinction between intention and object intended or between sign and *significatum*. Indeed, in respect to this latter necessity we have no quarrel with the proponents of a theory of types or of metalanguages. At the same time, to recognize the necessity of such a principle in regard to signs does not, we feel, exclude the possibility of concepts that are "predicable" or that refer to themselves. As to how these two things are compatible, we hope to make clear in the sequel.

[15] See E. A. Moody, *The Logic of William of Ockham*, p. 43. Moody here suggests merely that such a solution of what he calls the "vicious circle fallacy" could be worked out on Ockham's principles. But he cites no passages from Ockham that directly bear on the matter. However, this general type of solution is frequently referred to in the literature as being attributable to Ockham. See Thompson, *op. cit.* p. 517.

principle. That is to say, any proposition asserting either that the concept of the "impredicable" (or "predicable") is "predicable," (or that it is "impredicable") — any such proposition is such that it can intend or signify nothing save just itself; in consequence, it is only a pseudo-proposition, or mere non-sense.

Nevertheless, before proceeding with the demonstration of our thesis that the paradox of the "impredicable" inevitably involves such violation of the principle of intentionality, we must first consider one other feature of this principle — *viz.*, that such a principle of intentionality must be quite strictly construed. Thus, stated accurately, the principle asserts that no intention can intend *only* itself, or itself *considered as such*. These qualifications are important. And to convince ourselves of their importance, let us consider that other formulation of the liar paradox. That is the formulation according to which Epimenides the Cretan is supposed to have said, "Every proposition asserted by a Cretan is false." Or it might be formulated still more generally as simply the assertion, "Every proposition (or assertion) is false."

We suggest that when so formulated the Epimenides paradox turns out to be not a paradox at all, but simply a contradiction. Since the proposition, "Every proposition asserted by a Cretan is false," is asserted by a Cretan, its truth necessarily implies its own falsity. That is to say, the proposition, if true, simply contradicts itself. On the other hand, if the proposition is false, then clearly not every proposition asserted by a Cretan is false. Nevertheless, this does not mean that the original Epimenides statement is thereby necessarily rendered true. Hence there is no paradox.

In other words, on this formulation of the liar, one is dealing with a genuine proposition which, to be sure, is false because self-contradictory, but which certainly is not meaningless or a mere pseudo-proposition.[16] And yet the question that immediately suggests itself is why this formulation of

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[16] We are here simply paraphrasing Koyré's general line of argument in the article already cited in note 12 *supra*.

the liar is thought to give rise to a genuine proposition, whereas the other formulation was held to involve only a pseudo-proposition. In both cases the proposition would seem to intend itself in some sense or other.

This difficulty we propose to answer by suggesting that in the case of the earlier formulation ("The proposition which I am now asserting is false"), the proposition intends just itself and nothing else. On the other hand, in the case of the other formulation ("Every proposition which I assert is false"), the proposition does intend itself, to be sure; but it does not intend only itself and nothing else. On the contrary, being a proposition about any and every proposition, it intends itself only indirectly and as a particular case coming under the general or universal subject concept. In other words, in its second formulation the Epimenides proposition purports to be about not just itself, but about any and every proposition, or about any and every proposition asserted by Epimenides. As such, it is a perfectly fit and proper proposition. Nor does it violate the principle of intentionality that every intention must intend something other than itself. For this proposition does intend more than just itself.[17] In other words the principle of intentionality must be construed quite

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[17] We recognize that this attempt to distinguish between a proposition that is about just itself and nothing else, and a proposition that is about itself, to be sure, but still about itself as only one among many — this distinction, we admit, will strike many as being most loosely and inelegantly formulated. And so it is. But if in charity one can overlook such inelegances for a moment, we feel sure that one will find the distinction to be both meaningful and sound.

Indeed, unless we have seriously misunderstood him, Prof. Ushenko is aiming at much the same distinction as we are when he talks about a statement that is "about itself discretely," as contrasted with one that is "about itself indiscretely." (see *Power and Events*, pp. 266-267).

Nevertheless, neither Mr. Ushenko nor anyone else, so far as we know, has ever made use of the principle of this distinction in order to resolve the paradox of the "impredicable."

strictly: no intention can intend just itself and nothing else.[18]

Having finished this digression on the strict construction of the principle of intentionality, we are at last in a position to deal directly with the problem of "predicable" concepts. Such concepts might be described as concepts which are predicable [19] not only of their objects considered in first intention, but also of themselves considered in second intention.[20] Moreover, as examples of such "predicable" concepts we have insisted that there are to be reckoned the so-called "transcendentals," or properly metaphysical concepts.

Note, however, that as "predicable," these transcendental or analogous concepts must necessarily intend themselves in some sense or other — thus to use our old example, the concept of being is itself a being; that is to say, such a concept, in intending any and every being, necessarily intends

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[18] That such a strict construction of the principle of intentionality would suffice to enable us to deal with certain other paradoxes analogous to the liar, we feel confident. For instance, consider the following:

Proposition 1: Proposition 2 is true.

Proposition 2: Proposition 1 is false.

Here superficially Proposition 1 would seem to intend something other than itself, *viz.*, Proposition 2. However, when one considers what Proposition 2 means it becomes apparent that Proposition 1 could really mean or be about nothing save itself.

[19] Be it noted that our habit of sometimes putting quotes around "predicable" (or "impredicable") and sometimes not, is deliberate. When the word "predicable" is used in the ordinary sense of "capable of being predicated," we have not put it in quotes. On the other hand, when it is used to designate the very special sort of concept that is, shall we say, reflexive or transcendental in character, we have placed it in quotes. By such means, "predicable" concepts may be defined as being predicable in the peculiar way here suggested.

[20] Perhaps our use of Scholastic expressions such as first and second intentions in our definition of "predicability" demands some apology. Our excuse is simply that all things considered, such terms have seemed to us the clearest and the least subject to ambiguity and misunderstanding. Nevertheless, should one not be accustomed to these Scholastic expressions, it might be possible to render our definition of "predicability" in terms of the expressions, "use" and "mention." Thus: A "predicable" concept is one which is predicable not only of those objects which it is ordinarily *used* to signify, but also of itself as *mentioned*.

itself as well. At the same time, in view of the strict construction of the principle of intentionality there is nothing improper about such a reflexive intending. On the contrary, an intention can perfectly well intend itself as a particular instance of the general or universal object of its intention; all that it can not do is intend itself simply and just as such. On this basis, then, those "predicable" concepts which, as we have said, are so indispensable to metaphysics would seem to be altogether proper and legitimate. In this sense, they are comparable to our second formulation of the liar paradox.

Nevertheless, although the notion or concept of so-called "predicable" concepts may be admitted as an entirely fit and proper notion, is it equally fit and proper to ask whether such a concept of the "predicable" is itself "predicable" or not? Superficially it would seem so, and yet what we wish to maintain is that no sooner does one ask such a question, than one violates the principle that no intention can intend just itself and nothing else. In other words, although the concept of the "predicable" is entirely legitimate as a concept, the proposition which purports to assert that the concept of the "predicable"[21] is itself "predicable" (or "impredicable") — such a proposition is entirely illegitimate as a proposition, and hence is non-sense.

But why? In answer, suppose we consider the two following propositions:

(1) The concept of being is itself a being.

(2) The concept of being is a "predicable" concept.

And suppose further that we ask just what it is that (2) might be supposed to mean or signify or intend. In other words, just what does it mean to say that the concept of being is a "predicable" concept? We have already suggested that to say of any concept that it is a "predicable" concept means that it is predicable not only of its objects in first intention, but also of itself taken in second intention. Accordingly, if

[21] The same principle would apply, of course, *mutatis mutandis*, if it were the concept of the "impredicable" that we were talking about instead of the concept of the "predicable."

the concept of being is to be a "predicable" concept, one must be able to say of it that it is a being. In other words, proposition (2) means or intends proposition (1), in the sense that were the concept of being not itself a being, proposition (1) would not be true, and if (1) were not true one could not assert that the concept of being was a "predicable" concept. In short, what one means by (2) is simply (1).

Or perhaps the point may be made in this way. Obviously, to raise a question in regard to "predicability" (or for that matter, in regard just to predicability in general) is to raise a question about propositions. For clearly, in the real world of nature [22] nothing is predicable of anything else; it is only in propositions that such a thing as predicability (and hence also the special case of "predicability") manifests itself. Consequently, to ask concerning any concept whether it is "predicable" or not is to ask about a possible proposition, or perhaps better, a propositional situation. Thus, to ask whether the concept of x, say, is "predicable" is to ask whether or not "x" may be predicated of the concept of x *in a proposition*. Hence, to assert that the concept of being is a "predicable" concept means simply that one may predicate "being" of the concept of being in a proposition. In short, what is signified or intended in proposition (2) is simply proposition (1).

But now let us turn to our more doubtful example, and let us label it (2'):

(2') The concept of the "predicable" is itself "predicable."

What then is it that this proposition means or intends or signifies? If our foregoing analyses are correct, it should be apparent that if (2') is to mean anything, there should correspond to it another proposition (1'), which it might be said to intend or signify, just as in our earlier example (2) signified (1). But what or where is there such another proposition in the case of (2')? Curiously enough, there just does not seem to be any such other proposition anywhere.

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[22] In other words, we are presupposing here that there is a sharp distinction between logical relations and real relations, between relations that exist only as *entia rationis* and relations that exist as genuine *entia*. *Cf.* Veatch, *op. cit.*, pp. 29ff.

Thus, if one respects the stated meaning of "predicability," one must recognize that to say of any concept of x that it is "predicable" simply means that "x" is predicable of that very concept itself. Hence, to say of the concept of the "predicable" that it is "predicable" simply means that one can predicate "predicable" of that concept.

But then consider what the implication of this is, so far as the relation of (2') to (1') is concerned. As we have said, (2') reads as follows:

(2') The concept of the "predicable" is itself "predicable." However, by the immediately foregoing analysis this must be taken to mean or signify no more and no less than:

(1') The concept of the "predicable" is itself "predicable." But (1') is the same as (2').[23] Hence, if what (2') means or signifies is (1'), we have a clear case of a supposed proposition meaning or intending nothing but itself. However, this violates our earlier stated principle. Accordingly, (2') must be reckoned as not a proposition at all, but merely non-sense.

Moreover, if one reflects upon the matter a little, one can see why this illegitimate type of self-reference is inevitable and inescapable in the case of (2'). In fact, the explanation turns precisely on the nature of the difference between a proposition such as (2') and one like (2). As we have seen in our analysis of the meaning of "predicability," for any concept to be "predicable" simply means that it can actually be so "predicated" in a proposition. Hence for "being" to be "predicable" means that one can say of it that it is a being. However, in the case of the concept of the "predicable" itself, if one asks whether it is a "predicable" concept or not, it turns out that the only proposition in which it could

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[23] This statement might seem far from evident to many. Nevertheless, we shall try to resolve such doubts subsequently (*infra*. pp. 211) when we undertake to examine the relevance of the so-called semantic theory of truth to our general line of analysis. For the time being, we shall simply remark that although there might be a sense in which "p" $\supset$ p might be taken as symbolizing a semantic relation, p $\supset$ p never expresses such a relation. Consequently, (2') could scarcely be said to mean or signify (1').

thus be "predicated" is the proposition which asserts that it is so "predicable." In other words, where else could such a concept either be shown to be "predicable," or actually be "predicable," save in that very proposition that asserts it to be so? But obviously, this indicates that in the case of (2') we have to do with a proposition which, if it means or intends anything, could only mean or intend itself. This being impossible by our principle, (2') is seen to be inevitably and inescapably meaningless.

However, a rather serious objection might occur to someone at this point. Surely the question as to what a proposition means or intends or signifies is a very tricky one. And yet is it not at least plausible to suppose that in asserting a proposition to be true, one means no more than that what one thus asserts in the proposition is in fact the case? Parodying for a moment the semantic theory of truth, the objection might be put in this way. What does "This rose is red" mean or intend? The answer is that it simply signifies that this rose is red. But then likewise, what is meant by "The concept of the 'predicable' is itself 'predicable'"? Must not the answer be that this proposition simply means that the concept of the "predicable" is itself "predicable"? But surely, this semantic relation of a proposition to the fact which it signifies is not an instance of a proposition signifying just itself and nothing else.

Nevertheless, this objection is specious. In the case of "This rose is red," we are willing to acknowledge that the proposition here signifies the fact that this rose is red. But in the case of "The concept of the 'predicable' is itself a 'predicable' concept," just what is the fact that the proposition here signifies or intends? In answer, be it noted, first, that as we have already pointed out, since this proposition is concerned entirely with such things as predicability and "predicability," the only sort of fact which this proposition could signify would be another proposition. And second, be it noted that as our preceding analyses have shown, there is no *other* proposition which this proposition could intend or signify. Quite the contrary, the only other proposition which

(2') could signify turns out to be (1'); and this is not *other* at all. In short, the only place where it could be in fact the case that the concept of the "predicable" is itself "predicable" would be in that same proposition, "The concept of the 'predicable' is itself 'predicable.'"

Of course, it might occur to someone that by resorting to the device of meta-languages, it would be possible to salvage some sense and meaning for the proposition in question. For instance, suppose we set up some such scheme as the following:

(1) The concept of the "predicable" is "predicable."
(2) The concept of the "predicable" (*i.e.*, the subject term in proposition (1)) is "predicable."
(3) The concept of the "predicable" (*i.e.*, the subject in proposition (2)) is "predicable."
(4) The concept of the "predicable" (*i.e.*, the subject in proposition (3)) is "predicable." And so on.

All this is, of course, fine. Indeed, in terms of such a scheme, propositions (2), (3), (4), etc., all of them take on sense and meaning. Thus proposition (2) means or intends or is about proposition (1); proposition (3) means or intends proposition (2); proposition (4) is about (3) and so on.

Nevertheless, so far from obviating the difficulty, such a scheme of meta-languages merely serves to point it up the more sharply. For the real issue is not as to what proposition (2) could mean or intend, or proposition (3), or proposition (4), etc.; rather the crux of the matter lies in the question as to what (1) could mean. Indeed, can it mean or intend anything other than just itself? True, *if* (1) can be shown to be a meaningful proposition, then (2) can mean it, and (3) can mean (2), etc. However, when we come to (1), there just is no other proposition in the scheme which it could mean. And if we ask whether there is any proposition outside the scheme which it could mean, the answer must be in the negative. For as we have seen, for a concept to be "predicable" means simply that it is predicable not only of its objects in first intention, but also of itself taken in second intention. Accordingly, when it is the very concept of the

"predicable" itself concerning which we ask whether it is "predicable" or not, it is obvious that such a concept could only be thus "predicable" or "impredicable" in that very proposition which asserts it to be so. This being so, in the case of such a proposition there can obviously be no distinction whatever between the proposition and what it intends. But since this kind of self-intention is patently impossible, the pretended proposition is not really a proposition at all, but only non-sense.

Finally, it might not be amiss to add a sort of *argumentum ad ignorantiam* as one last bit of evidence in support of our contention that propositions like "The concept of the 'predicable' (or 'impredicable') is itself 'predicable' (or 'impredicable')," are simply meaningless. For is it not significant that in all the vast literature on Russell's paradox or the paradox of the "impredicable" no one to our knowledge has ever undertaken to explain why or on what grounds the class of non-self-membered classes should itself be considered to be self-membered, or why it should be considered non-self-membered? Similarly, no one ever seems to offer either any grounds for supposing the concept of the "impredicable" to be "predicable," or any grounds for supposing it to be "impredicable." Instead, the procedure is invariably one of simply invoking the law of excluded middle — the class of non-self-membered classes must be either self-membered or not; or the concept of the "impredicable" must be either "predicable" or "impredicable." And having invoked this principle, one then goes on to show that on either alternative a contradiction results. Nevertheless, as to whether there are any independent, prior grounds for leaning either toward the one alternative or toward the other, no one ever seems to say much.

Could it be that the reason one never ventures to suggest what the basis is for supposing that the concept of the "impredicable" is "predicable," or what the basis is for supposing that it is "impredicable" is simply that there just is no such basis? And the reason there is no such basis is because that there is nothing that either proposition could possibly mean or intend, or that could provide any ground

or reason for affirming either. And the reason there is thus nothing for either proposition to intend or mean, is simply because each proposition cannot possibly intend anything other than itself — and such self-intention is simply impossible.

Nevertheless, by this time it must have occurred to many that there is an odd one-sidedness about our efforts to dispose of the paradoxes. For in straining to slay the dragon of the "impredicable," we would seem to have completely neglected non-self-membered classes. And yet as is well known, Russell's famous paradox was originally couched in terms of classes, the paradox of the "impredicable" being only a later invention.

Accordingly, the question immediately suggests itself as to whether our line of argument exposing the paradox of the "impredicable" as a mere sophism would be equally telling against the paradox of non-self-membered classes. And certainly at first glance it would seem not. For although there may be some plausibility to our contention that a proposition such as "The concept of the 'impredicable' is itself 'predicable' (or 'impredicable')" can intend only itself, the same would not seem to be true in the case of such a proposition as "The class of non-self-membered classes is (or is not) a member of itself." Indeed, the relation of class membership, unlike the relation of predicability, might be said to obtain elsewhere than merely in a proposition. Accordingly, a proposition about self-membership could easily intend or refer to something other than itself, in a way in which a proposition about "predicability" could not.

In attempting to meet this difficulty, we may perhaps begin by quite understandably bemoaning the distressing vagueness and ambiguity of the notion of a logical class. Indeed, the very vagueness of this notion has prompted at least one prominent logician on one occasion [24] to discuss

[24] Ushenko in *Problems of Logic*. On p. 58 he says, "In order to avoid the misconception that this paradox is merely a disclosure of an inherent inconsistency in the notion of a class, it is advisable to formulate it in the language of propositional functions." It perhaps should be remarked, however, that in his later book, *Power and Events*, Mr. Ushenko does not choose to follow the same procedure (*ibid.*, p. 250).

the paradox only with reference to "predicability" and not at all with reference to self-memberedness. Be that as it may, we think that we can discern at least one fundamental ambiguity in the notion of class. Accordingly, having exposed this ambiguity, we think we can then show how Russell's paradox may be dealt with first on the one interpretation of classes and then on the other.

As to this basic ambiguity in the notion of class, we think it is simply this. On the one hand, classes are sometimes regarded as if they were indistinguishable from concepts or propositional functions. In fact, the term "class" is then taken as being simply synonymous with "concept" or "propositional function." On the other hand, however, one just as frequently finds classes treated as if they were a kind of quantitative whole and hence quite different from any such thing as a concept or a predicate, understood in the strict and proper sense.[25] Thus taken in the sense of a quantitative whole, classes enter into relationships of so-called class-membership and class inclusion. However, a concept, whether it be taken as subject or as predicate, is never the term of a relation either of class-membership or of class-inclusion — at least so we should insist. To be sure, the relation of predication may found a relation of class membership or class inclusion, but it is never the same as either of these latter relations. Not only that, but we should even go so far as to say that relations such as those of class-membership or class-inclusion are not logical or intentional relations at all. That is to say, unlike a relation of predication, they are not mere signs or representations of something else. To be sure, they may be intended or signified or represented; but they themselves aren't about anything or intentions of anything; rather they are just themselves and as such are non-intentional rather than intentional.

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[25] For a justification of this, as well as of the other key statements made in this paragraph, the reader is referred to the more extended treatment of classes to be found in Veatch, *op. cit.*, pp. 116-126. Cf. also "Concerning the Ontological Status of Logical Forms," *Review of Metaphysics*, II (December, 1948) pp. 40-64.

Accordingly, considering each of these interpretations of the notion of class in turn, we may say of the first that if the term "class" be interpreted to mean exactly the same thing as "concept" or "predicate," then the so-called relationship of self-membership is precisely the same as the relation of "predicability." Hence any refutation of the paradox expressed in terms of the latter would be equally telling against the paradox expressed in terms of the former.

On the other hand, if classes be understood as a certain type of quantitative whole, then obviously one is not dealing with logical entities at all, and any difficulties that may arise in connection with classes being members of themselves are difficulties pertinent to mathematics perhaps, but certainly not to logic. To be sure, it would seem to us that when classes are understood in the sense of quantitative wholes, then the idea of a class being a member of itself would have to be understood as but a particular manifestation of a whole being a part of itself. Moreover, since to a naive non-mathematician this latter notion would seem to be nothing less than a contradiction in terms, so also the idea of a self-membered class would appear equally contradictory.[26]

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[26] It might be instructive at this point to note some of the similarities and dissimilarities between our way of dealing with Russell's paradox and Koyré's in "Manifold and Category." See reference in note 5 *supra*.

Koyré recognizes clearly, as do we, that 'concept' and 'class' just are not strict correlates (p. 15). Also he recognizes that a class of all classes would seem to be an impossibility. And although he never explicitly says so, one might infer from his examples and arguments that the reason there cannot be a class of all classes is because of its quasi-quantitative character (cf. pp. 10, 16-17). Finally, M. Koyré's whole discussion is directed toward showing that although there cannot be such a thing as a class of all classes, there certainly are and even must be certain concepts that are "predicable" or self-referential.

On the other hand, Professor Koyré seems not to have recognized the peculiar sophistic character of the supposed paradox of the "impredicable." Instead, he simply insists that although there can be no such thing as a class of all classes, one must not infer from this that there can be no "predicable" concepts. Why? Because "self-inclusion" is not the same as "self-application" (p. 11); hence the impossibility of the former must not be supposed to entail the impossibility of the latter. Unhappily,

However, this point had better be left to the mathematicians themselves to determine. For us, however, it would seem obvious that whatever the mathematicians may conclude as to the legitimacy of the notion of a self-membered class, the notion of a transcendental or all-embracing concept — *i.e.*, a concept that applies not merely to its objects in first intention, but also to itself considered as an object of second intention — such a notion is both legitimate in itself and indispensable to metaphysics. Not only that, but for the reasons we have given we do not see that the admission of such "predicable" concepts would lead to paradox at all. On the contrary, the supposed paradox of the "impredicable" turns out to be not a paradox, but a mere sophism.

With this, we are ready, we think, to summarize our results and to point up some conclusions. It may be recalled that at the outset of our discussion we posed a seeming dilemma: either one can retain "predicable" concepts, and so have an adequate language for metaphysics, only to be confounded in logic by the paradox of the "impredicable"; or one can rule out "predicable" concepts and so save one's logic from paradox, but only at the expense of an adequate language for metaphysics. As a result of our discussions, we hope that we have been able to dispose of this dilemma once and for all. More specifically, it may be noted that our disposal of the dilemma is different, we think, from most of the solutions that have appeared in the literature. To be sure, many logicians and philosophers have simply acquiesced in being gored by the second horn; and at the expense of metaphysics they have set up their theories of types or systems of meta-languages.

On the other hand, among those who have considered such a fate intolerable, the tendency has been to try to slip

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however, Prof. Koyré gives no convincing argument — or at least so it would seem to us — as to just why such self-application in the case of "predicable" concepts will not lead precisely to the paradox of the "impredicable." Consequently, until this particular paradox is disposed of, all of M. Koyré's otherwise excellent observations would seem simply to evade the main issue.

between the horns of the dilemma. Supposing that the so-called paradoxes were genuine paradoxes, this latter group of metaphysician-logicians would seem to have bent all their efforts toward constructing various elaborate logico-linguistic schemes that would somehow permit of the use of at least some "predicable" concepts, and yet not lead to paradox.

In contrast, our solution of the difficulty is much simpler and also comparatively painless. Instead of acquiescing in either allowing ourselves to be gored by one of the horns, or wearing ourselves out trying to devise schemes and techniques for slipping between the horns, we simply deny the paradox to be a paradox. And with that, the whole dilemma vanishes.

Moreover, should we be right in our contention that there is neither any paradox nor any dilemma here, then a number of interesting consequences follow. For one thing, if the paradoxes are only pseudo-paradoxes, then the charge which the mathematical logicians have repeatedly hurled against Aristotelian logic becomes quite without foundation. For how can Aristotelian logic be justly accused of failing to avoid paradox, if there be no paradox in the first place?

For another thing, if there are no paradoxes that need to be avoided, then what is to become of all those ingenious schemes like Russell's theory of types or the more recent systems of meta-languages? For that matter, if not only the paradoxes, but even the dilemma itself vanishes, then what of all those elaborate devices for retaining metaphysical self-reference and yet avoiding paradox? Presumably, one must say that all such schemes, however impressive they may be as feats of human ingenuity, are wholly dispensable and utterly useless, so far as logic is concerned. Indeed, our suggestion is that they now be regarded as appropriate objects for the application of Ockham's razor.

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PERFECTION, INFINITY AND UNIVOCITY

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A. Does the attribution of absolute perfection entail the denial of the univocity of being?

1. Must what is perfect be "above being" in order not be confined by the limits of being?

a. The problem of being and the transcendentals.

In considering "perfection," "unity," and "infinity," we are dealing with *transcendentals*, those real concepts which cannot be classified within the Aristotelian categories, due to their greater extension and universality. "Unity" and "perfection" are transcendentals, but they also apply within the categories, and this gives rise to the problem of univocity.

If "being" is usually defined in terms of something roughly equivalent to the Aristotelian categories, are we forced to say that whatever escapes classification by these categories is to that extent beyond or above being? For instance, if "perfection" is used outside of the categories which apply to particular beings and is attributed to a first principle of all things, is "perfection" in this application so different from "perfection" as it applies within the categories that the two applications share nothing in common?

b. The argument over the meaning of "being," and the solution by equivocity, univocity, or analogy.

"Being" is used in at least four different senses:

(1) "Being" is most often used to refer to any entity, relation, or state of affairs which has concrete existence within the given structure of our world. In this sense, "being" is also used as a general term to refer to the totality of all such entities, or to the general structure which all of them share as actual entities.

(2) "Being" may be used to refer to more than any actual entity or state of affairs; it may be extended to include all of the potentialities inherent in this particular actual

structure. Sometimes being includes potential entities which will not or have not yet in fact become actual; and sometimes being is restricted so as to include only those potential entities or sets of relations which are actually slated to come to exist concretely in time.

(3) The problem of the transcendentals arises when "being" is extended even further, so that it also refers to a God, or to a first principle of the actually existing structure. If everything that is or potentially can come into existence within the given structure is limited, and if infinity is attributed to God or to the first principle as a perfection, then the problem of the transcendentals is: in what sense can the general terms which are used to describe all limited beings also be applied to a first principle whose perfection is different in this fundamental way? Sometimes the difficulty involved in using concepts which apply to both of these ontological levels is thought to be so serious that it necessitates a split, and the result is to deny that a God with perfections of this radical kind is within being in any sense. A similar problem arises over whether or not "being" can be used to apply to both temporal and non-temporal entities.

(4) The widest conceivable use of "being" includes all actual entities and relations, all entities and relations which are potential to the structure, regardless of their existence or non-existence in time, and the first principle of this particular structure, who is said to possess infinity as a positive and primary perfection. In addition to this, all possible and conceivable structures other than our own are included within what is designated by the term "being," together with all possible entities and relations potential to these conceivable alternative structures.

According to this last view, being is in no way restricted. Any conceivable entity, relation, or state of affairs is within being; only what involves a self-contradiction in its conception is excluded. There are two major divisions within being when it is conceived of in this manner: (a) between what exists as actual and what still subsists as a possible, with a degree of relevance to what is actual that varies from

immediate pertinence to total exclusion: and (b) between what is limited by nature and what is absolutely unlimited in extent. However, when being is used to apply to realms which differ as radically as this, can there be common concepts which apply to all of being, regardless of these basic differences which divide it?

In considering the relation of the transcendentals to the categories which are applicable to being in general, the three possible alternatives are equivocity, univocity, and analogy. A preliminary definition of these three concepts may be given as follows:

> (1) "Things that are *univocal* are those which have the same name and the essence of which signified by this name is simply the same."
>
> (2) "Things that are *equivocal* are those which have the same name and the essence of which signified by this name is totally diverse in each of them."
>
> (3) "Things that are *analogous* are those which have the same name and the essence of which signified by the name is simply different in each of them, although there is some point of resemblance between them according to a certain proportion..." [1]
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> "In the analogy of proper proportionality... the common concept is intrinsically analogical because it is realized formally and properly in each and every one of the terms of the proportionality." [2]

c. The attribution of infinity tends to deny univocity.

If we grant that what is absolutely perfect, *e.g.*, God, requires infinity as a qualifying attribute, this seems to be an argument against the univocity of being. This is particularly true if it is assumed that infinity implies indefiniteness or a lack of determinateness, since "being" is usually taken to mean what is definite and determinate due to its particularity. However, even if we change the concept of infinity so that it no longer involves indeterminateness, perfection still seems to be other than or beyond being, if being is defined by the Aristotelian categories. If being always entails limitation, then

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[1] Garrigou-Lagrange. *God: His Existence and His Nature.* St. Louis: B. Herder Book Co., 1948, II, 206-207.

[2] Anderson, James. *The Bond of Being.* St. Louis: B. Herder Book Co., 1949, p. 230.

we cannot use the term to apply univocally to both what is infinite and to what is finite. This is the conclusion which anyone will reach who follows the general Aristotelian view, *i.e.*, that limit is definitive of whatever can be said to have being.

The question is shifted somewhat when we ask how "form" is related to "being." If we grant that whatever can be said to have being must have form, in the sense of the determinate characteristics which make a thing amenable to intelligence, then the question is changed. The issue now becomes whether, if being requires form, form is essentially and inextricably related to limitedness. On an Aristotelian basis for knowledge, form tends to be associated much more closely with limit, while on a Platonic basis for knowledge this close association of form with limit is not necessarily implied. If we accept the association of form with limit as inescapable, then what is by nature infinite cannot be referred to univocally as possessing being.

Plotinus makes this association of intelligibility with limit, saying that what does not have limit cannot be defined.[3] According to him, being necessarily requires limit, and since the One does not have limit it therefore cannot have being. On the other hand, those who assert the univocity of being use the term "being" in a more all-inclusive sense. That is, they recognize that on the whole "being" does seem to require limit for its definition; but, since they also recognize the existence of a nature which is actually infinite, "being" may be used to apply to natures of both kinds, *i.e.*, those intrinsically limited and those whose nature does not involve limit in its definition. In this wider application, "being" is used to apply both to limited and to unlimited entities; whereas those who assert that perfection and infinity require a denial of univocity and a transcendence of being, use the term "being" as intrinsically associated with limit in its every instance.

A particular doctrine of knowledge is required if "being" is to be used in a sense which does not necessarily imply

[3] Plotinus. *Enneads*, trans. Mackenna, IV, 54 (V.5.6).

limitedness. That is, the mind must be such that it is naturally equipped to deal with what is infinite. Knowledge itself becomes infinite in one of its aspects, and unlimitedness also characterizes the mind which can by nature deal with a positive infinity in a straightforward manner. On the other hand, if the mind's source of knowledge is restricted to what has limit, only two possibilities are open: Either the existence of God as an actually infinite being will be denied, or else "being" will apply only equivocally to all ontological levels. This latter alternative involves negative implications for the possibility for knowledge of what is infinite.

d. Does the attribution of perfect unity to a first principle place it above being?

Where unity is concerned, the possibility for a univocal concept of being depends upon the kind of unity which perfection requires. If, as Aristotle argued, the only kind of unity which any entity may possess and remain within being is concrete and particular unity, and if another kind of unity is demanded as appropriate for what is by nature infinite, then this special kind of unity will be raised above being. However, if the essential nature of unity is not defined simply by reference to concrete and limited beings, then unity may be used as a univocal concept applicable to beings which are intrinsically limited as well as to those which are not, *e.g.*, God.

If Plotinus is correct and the perfect unity of the One excludes both will and intelligence as attributes, then it will be either difficult or impossible to find a basis for community between the One and what has being, since beings always operate by will and intelligence. For this reason, a univocal concept of being requires the presence of some form of volition and knowledge, even where perfect unity is present.

The denial of the univocity of being casts doubt upon the possibility of knowledge concerning what has been raised above being by its perfection. The possibility of knowledge seems to rest upon finding either some univocal concept within being in general, or in finding some common ground for comparison between what has being and what is above

being. However, if we know anything at all about the kind of unity which perfection requires, when we describe what this unity entails we have begun to lay down a basis for knowledge and for comparison.

The acceptance of infinity and goodness as primary characteristics of the perfection of the first principle is of itself sufficient to prevent the extreme form of the denial of the univocity which seems to be demanded by the requirements of perfect unity. Infinity involves a multiplicity which makes it possible to have knowledge of what has perfect unity. In this sense the issue over infinity is prior to a consideration of unity. If infinity does not involve the impossibility of knowledge and the denial of univocity, then infinity may be used to solve the difficulty concerning perfect unity without fear that infinity will simply raise further problems of its own.

The acceptance of goodness as characteristic of the first principle also relieves the problem which unity raised, since goodness by nature is not intrinsically restricted to limits. Therefore, goodness can provide a source of community between what is limited in its being and what is infinite. According to Plotinus, intelligence is shared in no way by all ontological levels and cannot serve as the basis for univocity. Whereas if goodness is shared by all ontological levels in some minimal way, it will then be able to serve as the source of the univocity of being, "being" now used so that it includes all possible ontological levels.

e. The special case of analogy.

The doctrine of the analogy of being must be considered as a special attempt to counteract the assertion that being is equivocal where the transcendentals are concerned. The argument which univocity uses against equivocity proceeds by trying to find some common source for comparison, while still admitting the radical difference between what is by nature infinite and what is by nature limited. The doctrine of analogy attempts to hold a mean position between these two tendencies. "Analogy is a mean between equivocity and univocity, in a sense that it participates in these extremes. Equivocity im-

ports sheer diversity; univocity, sheer identity; analogy, a certain identity in diversity." [4]

In short, analogy tries to find a mean between univocity and equivocity by saying that analogous things are neither entirely the same nor utterly different. As indicated previously, the general definition of analogy is as follows: "things that are *analogous* are those which have the same name and the essence of which signified by this name is simply different in each of them, although there is some point of resemblance between them, according to a certain proportion . . ." [5]

Analogy is then broken down into two general classes: (1) analogy of attribution, where "the common character or *ratio* belongs properly to only one of the participants but is attributed by the mind to the others," [6] and (2) analogy of proper proportionality, where "the common character or *ratio* belongs really and truly to each and all of the participants but to each and all in proportion to their respective being." [7] It is only this latter kind of analogy which can be used where the transcendentals and the divine attributes are concerned, and here "the meaning of the word never remains exactly the same but is always proportionate to the nature of the being of which it is said." [8] " . . . the very *being* by which they are one is diverse in each though proportionate to the essence of each." [9]

If we keep in mind this doctrine of analogy, it is easier to understand St. Thomas' answer to the problem which infinity and unity involve as perfections. Thomas removes the Aristotelian exclusive association of form with limit and ascribes infinity to God in the sense of form. This would seem to imply a univocal concept of being such that "form" applies to all ontological levels, infinite and finite alike. How-

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[4] Anderson, *Bond of Being*, p. 230.

[5] Garrigou-Lagrange, *God: His Existence and His Nature*, II, 206-207.

[6] Phelan, Gerald B. *St. Thomas and Analogy*. Marquette Univ. Press, 1948, pp. 18-19.

[7] *Ibid.*, p. 19.

[8] *Ibid.*, p. 24.

[9] *Ibid.*, p. 29.

ever, the answer which is given here is that form in limited beings and form as it is in God are only analogous. Thomas also solves the problem of knowledge where infinity is involved in a similar manner. That is, we do not know God as infinite form directly. As far as the process of knowledge is concerned, Thomas is much closer to Aristotle, viewing knowledge as always taking place *via* limited, sensible forms. Form itself does not necessarily imply limit, but we know only limited forms directly and come to a knowledge of infinite form only by analogy, so Thomas tells us.

The problem of unity is not as crucial for Thomas as it is for Plotinus, since Thomas' emphasis on God's infinity prevents the divine unity from being as severe as that of the Plotinian One. Nevertheless, the demand for unity makes Thomas identify the divine attributes, since he is afraid that distinction may result in division within the divine nature. The knowledge which we can have of the divine unity is again said not to be direct, since it is reached only by analogy from the unity of limited individuals. In this way Thomas hopes to prevent the perfections of unity and infinity from raising the divine nature above being in every sense, although they certainly raise it above particular and limited beings. This doctrine is in opposition to equivocity since the concepts which apply to ontological levels that are essentially different are said to be analogical rather than strictly univocal.

However, in order to make the doctrine of analogy a mean between univocity and equivocity, one must say that these different and analogous concepts nevertheless share a sameness of some sort, and it is this element of sameness which is stressed by the proponents of the univocity of being. Furthermore, insofar as knowledge is concerned, when the advocate of the doctrine of analogy asserts that only limited forms are known directly, this question arises:

> Where do we get this notion which applies properly to God and is only analogous to the concept we apply to creatures? [10]

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[10] Wolter, Allan B. *The Transcendentals and Their Function in the Metaphysics of Duns Scotus.* St. Bonaventure, N.Y.: The Franciscan Institute, 1946, p. 41.

> What natural or sensible quiddity contains even implicitly the mode of infinity? [11]

Where the unity of the divine nature is concerned, for instance, if even our simplest notions of God are only analogous to those through which creatures are known, all natural knowledge of God's nature as it is in itself seems to be impossible. Thomas' doctrine of analogy is one way to answer the problems raised by unity and infinity as they apply on the one hand to men and on the other to their perfect instance in God; but analogy pays for its solution only by encountering additional problems of knowledge of its own, a fact which casts doubts upon its merits as a solution to the problem.

2. Possibility requires that even what is perfect in an unqualified sense must fall within the general concept of being.

a. The absolute infinity of possibles and the univocity of being.

Just as it is the nature and status of infinity that is crucial to the way in which unity and perfection are related, it is possibility which is important for the interpretation of infinity. If possibility is absolutely infinite and this world exhibits concretely only one set of possible relations, then there is a first principle responsible for the actualization of this particular set of possibles; and this first principle must be of such a nature as to be able to comprehend and to operate with an absolute infinity of relations.

Furthermore, since all possibles are not actual and cannot be, since they lack compossibility, a perfect first principle, *e.g.*, God, which operates among the possibles to actualize some one set, must be characterized by intellect and will. Its work could not be effective under any other circumstances. If this is true, if the basic features of personality must be attributed as perfections to the first principle, then infinity is no longer a problem so far as the univocity of being is con-

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[11] *Ibid.*, p. 42.

cerned. That is, if intelligence and will appeared only in the ontological orders beneath the first principle of things, then it would be more difficult to find a univocal concept which could be applied to all ontological levels. But since possibility requires the attribution of intellect and will as characteristics of any first principle, possibility in this way provides a strong argument for the univocity of being.

Possibility is such that it requires a concept of perfection which allows for the non-actuality of some real possibles, and the resulting situation permits the ascription of a genuine area of freedom to both God and man. In both instances intellect and will work with the possibles, although for men the possibles are limited, whereas for God they are absolutely infinite. In spite of this fundamental and crucial difference, possibility still provides a univocal concept applicable to a perfect first principle as well as to men.

b. Unity is altered by the lack of compossibility among the possibles.

The unlimited extent of possibility also argues for a univocal concept of unity which can be applied to all levels of being. Although God's unity is the unity of an infinite being, and although man's unity is such that distinctions sometimes mean divisibility (whereas distinctions are never of this kind in what is perfect), a univocal concept of unity is still applicable to both of these ontological levels. The kind of unity applicable to men and to a first principle is essentially the kind of unity which characterizes a person, and it is the nature and extent of possibility which requires this univocity of predication.

Possibility requires that intellect and will be kept distinct in their functions, and for this reason God's unity must be of a kind such that it is able to provide a real basis for the necessary distinctions and must not be conceived in any way which would reduce these functions to an identity. The kind of unity which characterizes personality cannot be attributed to the Plotinian One, but the absolutely infinite extent of possibility and the non-actuality of some sets of relations argue for the

inadequacy of Plotinus' concept of perfect unity. Because possibility is infinite in extent and contains non-compossibilities, only the kind of unity which characterizes personality can be called perfect; and this results in a univocal concept of unity, in spite of the difference between unity in its infinite and in its finite instance.

Plotinus does not admit that existence of an excess of real possibility over actuality, and as a consequence he does not apply a univocal concept of unity to all ontological levels. Thus, the status of possibility is an important factor in the argument over the univocity of being. Furthermore, even when possibility is admitted to exceed the limits of actualization, if the criterion of goodness which operates in God's selection of the possibles specifies one and only one good set of possibles, then no real choice is involved in God's decision. Whenever this is so, the kind of unity which the first principle of things possesses tends to be quite different from the kind of unity which characterizes men. Men are faced with real choices only if all good possibilities cannot be actualized. Unless God is faced with similar choices, "will" cannot be said to characterize the action of the first principle. But if possibility is such that value criteria require the aid of will in order to bring about actualization, then this kind of possibility is an argument for a univocal concept of unity, applicable both to infinite and to finite beings.

c. The univocal concept of being is prior to the infinite and the finite.

The absolute infinity of possibility requires a univocal concept of unity applicable to men and to a first principle which is perfect and infinite. Therefore, there are certain attributes which belong to being as such, as indifferent to finite and infinite. Any inquiry about the attributes of perfect being rests upon this kind of assumption. Since the first principle cannot be known in the same direct way in which concrete sensible things are known, the possibility for natural knowledge of a perfect first principle depends upon the ability of the intellect to obtain a univocal concept from sensible

beings which will apply to all beings whatsoever. It must be true that, when the intellect considers being, "not only limited being, but also unlimited, being, is the naturally motivating object of the created intellect." [12]

"The object of the intellect qua intellect is that which is common to all intelligibles, that is, being as being." [13] And the concept which the intellect obtains must be applicable to finite and infinite alike, in spite of the infinite distance between these two modes of being. As one historian put it: "The concept of being is abstracted from creatures, and it is the concept of being without any determination: it is logically prior to the division of being into infinite and finite being." [14]

Possibility is the object which the intellect first apprehends; and the intellect secondarily becomes aware of the absolutely infinite extent of possibility, although the limitations of the intellect's mode of knowing prevent full comprehension. Once the grasp of the extent of possibility has made the intellect aware of the distinction of finite and infinite within being, the intellect can proceed to the abstraction of the essential attributes of being. In this process the abstraction of a concept of unity from finite individuals provides a basis for the discovery of a univocal concept of unity, which must then be modified for its attribution to the first principle as perfect and infinite.

It has sometimes been thought that infinity requires the transcendence of being and that this means that all concepts which are applied to both the finite and the infinite are either equivocal or analogical. However, the primacy of possibility in the intellect requires that infinity and being be compatible. Therefore, univocal concepts can be applied to being in its infinite and in its finite aspects. "Here no incompatibility is

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[12] Shircel, Cyril C. *The Univocity of the Concept of Being in the Philosophy of John Duns Scotus.* Washington: The Catholic University of America Press, 1942, p. 49.

[13] *Ibid.*, p. 55.

[14] Copleston, Frederick. *A History of Philosophy,* (Vol. II). Westminster, Md.: The Newman Press, 1950, p. 507.

apparent, because finiteness does not belong to the meaning of being." [15]

In spite of this core of univocity, perfection is not spread out to all of being in equal degrees. There is a univocal concept of unity predicated alike of what is absolutely perfect and of what is not, but this univocal concept of unity is itself imperfect, in that sense that it does not signify the intrinsic mode of either finiteness or infinity. Therefore, it is only when this univocal concept of unity is specified in an infinite mode that it connotes full perfection.

The kind of theory of knowledge upon which the univocity of being rests is evident from the following: "And thus creatures which impress their proper (intelligible) species in the intellect can also impress the species of the transcendentals that are common to themselves and to God," [16] That is, the transcendentals are not so different from being in general that they are unknowable or require even a distinct mode of knowledge. Unity as a transcendental has some additional connotations, but these are not so different that they destroy the univocal application of the concept or its common origin in the knowledge of the unity of limited beings.

The following is an excellent statement of the essential univocity of the various attributes of perfection and of their univocal source in the knowing process:

> Before being is divided into the ten categories, it is divided into infinite and finite. For the latter, namely finite being, is common to the ten genera. Whatever pertains to being then insofar as it remains indifferent to finite and infinite, or as proper to the Infinite Being, does not belong to it as determined to a genus, but prior to any such determination, and therefore, as transcendent and outside any genus. Whatever (predicates) are common to God and creature are of such kind, pertaining as they do to being in its indifference to what is infinite and finite. For insofar as they pertain to God they are infinite, whereas insofar as they belong to creatures they are finite.[17]

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[15] Scotus, John Duns. *De Primo Principio*. St. Bonaventure, N.Y.: The Franciscan Institute, 1949, p. 121 (IV 9).

[16] Wolter, A. *The Transcendentals*, p. 54.

[17] *Ibid.*, p. 45.

One interesting result of the doctrine of univocity is that any proper notion is a composite notion, whether it is predicated of the first principle as absolutely perfect or of a concrete and limited being. This result would be intolerable if, as Plotinus holds, perfect unity requires the total exclusion of composition. On the other hand, if possibility is such that some real possibilities always remain non-actual, and if the nature of possibility requires will and intelligence as distinct functions for the specification of actuality, then the composition which results from this univocal view of being will not be a violation of perfection. On the contrary, due to the nature of possibility, nothing could be absolutely perfect unless it did provide a basis for these distinctions within its nature. This does not break down the difference between the unity which characterizes what is infinite and the unity of limited beings. Perfection in an unqualified sense still applies only to what is absolutely infinite, since infinity alone is the one attribute in which all beings do not participate. However, the ontological priority of the absolutely infinite extent of possibility does require a univocal concept of being, abstracted from being qua being prior to its contraction into infinite and finite modes.

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THE PERCEPTION OF STARS

PAUL WEISS

Contemporary philosophers and psychologists, as well as Newtonian and Einsteinean physicists, seem agreed that no man perceives real contemporaneous stars, in large part because they embrace the doctrine that all perceptual relations are the product of time-consuming actions. If that doctrine is mistaken, as I think it is, one will take from this prevalent theory of perception one of its strongest props.

He who denies that we see real contemporary stars is forced to accept one of three intolerable positions: a. he will hold that perception involves the instantaneous traversal, backward through past time, of great distances in space; b. he will hold that it is a kind of private imagining which may have nothing to do with the facts; or c. he will hold that it is an act of projection of private fancies on to an environing void or alien matter. Once it is seen that no one of these is plausible, it should not be too difficult to find support for the neglected but common-sense, practical and verifiable view that we are independent but interlocked parts of a contemporary world, encountered in emotion, action, perception and thought.

a. The theory that perception involves an instantaneous traversal of space, backward through past time, is based on the double belief that men feel the later effects of past objects, and that they can succeed in knowing those past objects directly, as they once existed at a distance. A star seen now is thought to be far away in space and time, affecting men here and now in such a way as to prompt them somehow to traverse the millions of years and the thousands of millions of miles which separate them from that past and distant star. The theory makes two strange suppositions: α. It supposes that the perceptual trip back to the star takes no time. But then there is an exception to the view that all trips do take time, that one object cannot get in touch with another except

at some such rate as 186,000 miles a second. β. It also supposes that there is a past time through which one can somehow travel. But the past is gone. And if it were still in existence, there is no way in which we can move in, to, or through it. We live forward, not backward; we cannot possibly look into last week. We can look only at contemporaries, though perhaps never without stimulations by irritants which originate in the past.

b. The theory that perception is a kind of imagining is more cautious than the theory that it is a kind of traversal backwards through time over large stretches of space, and this instantaneously. It maintains nothing more than that whatever we feel or know occurs in our minds, and that all we could possibly do is to separate some of these mental occurrences from the rest and suppose that they exist or represent what exists apart from us. This theory too is faced with a double embarrassment. α. On this view there is no evidence of any kind that one could offer to show that something was objective, exterior to a man. No one, therefore, would have any warrant for supposing that any item or claim has a status or dignity to be denied to some other. There would be no way of distinguishing facts from fictions, science from fable, the unverified from the unverifiable. There would be no one with whom to be acquainted or to communicate; there would be no knowable world in which a man might live. β. The theory also precludes the use of any evidence on its behalf. A theory that perception is a kind of imagining has no warrant for its thesis that this imagining is prompted by the pressure of distant objects on a man's organism. Since it has no reason or evidence for such a thesis, that thesis is evidently a pure product of imagination, to be turned aside by any theory which starts with a fact. Instead of being implied by science, it entails the denial of science. Were it correct, a scientific assertion could not be checked by any examination of the world and could not stand over against a fiction, as true and justified, over against what is false and unwarranted. All reference to distant stars, light rays, sound waves, measure-

ments, clocks would be impertinent at best, precluding the need for a theory based on them.

c. The third theory is that perception is an act of projection. Like the first and second it supposes that we feel the outcome of the action of the star on us now; but it then goes on to suppose that we exteriorize, project, suppose that what we feel has the status of something real beyond us. On this view we see a contemporary world, but one which is generated by us under the stimulation of something that had existed before. It allows us, as the second view does not, to affirm that we know something outside ourselves, but it does not go the length of having this be something which actually exists independently of ourselves. It is a view which ends with fictions doubly compounded, first in the sense that they are products of our imaginings, and second in the sense that they are projected outward and thus made to look like facts. How the projection takes place is a mystery. Why it should take place is an even greater one. And nothing in the projection gives warrant for the belief that it was preceded by stimulation from objects similar to those resulting from the projection. Actually it has no other evidence with which to begin or end but the confrontation of a contemporary world. It then goes on, without warrant, to suppose that this world is imagined by men, that this imagination is occasioned by external unknown objects, that the images are exteriorized to give the semblance of facts, and that the apparent facts so produced look like the things which occasioned the imagining in the first place.

The first theory gets to a real object but only by postulating an instantaneous passage through a time which no longer exists, to arrive at a cause that may be quite distinct in nature from the effect with which the theory presumably began. The second theory recognizes that there is content in perception which is private, forever caught within the confines of our minds; but then it fails to put us in contact with an exterior world, past or present. The third theory recognizes that there is a distinction in location, function and

nature between what we privately enjoy and what is public, but supposes that the latter is the product of the former and thus denies in the end what it supposed in the beginning.

These theories were embraced because it was thought that all connections and occurrences, and thus the traversal of light rays from a star to us, take a finite amount of time to bridge a distance. If it is not granted that light rays (and, of course, sound waves as well) take time to traverse a space, it will not be necessary to maintain that we see either something private or something at a distance from us in time. It seems, though, that we must grant that light rays take time to traverse a space. Otherwise we will be unable to give an uncomplicated explanation of the presence of certain planetoids at different positions in the sky. Roemer in 1676 observed that when the earth is between the sun and Jupiter, the eclipses of the satellites of Jupiter occur seven minutes or so earlier than the laws of motion would seem to require, and that contrariwise, when the earth is beyond the sun, the eclipses occur seven minutes or so later. It is plausible to suppose that in the latter case the light has to travel a longer distance from planetoids to earth than in the former. The distance should in fact be exactly that of the diameter of the earth's orbit around the sun. Given that distance it is possible to deduce the discrepancy in the times of the different eclipses if we assume that light travels at the rate of 186,000 miles a second.

It is a common item of experience, also, that we can see a man at a distance chopping wood and that we can hear the sound of the chopping only some moments later — sometimes even after the chopping was seen to stop. Sound, a thousand experiments seem to show, travels at a well-defined rate. If a theory of perception could be based on the supposition that light does not take time to travel, it would nevertheless have to affirm that sound takes time, and thus would, in connection with its account of the perception of the audible, encounter all the embarrassments it avoided in connection with its account of the perception of the visible.

The delay in the observation of the eclipses of Jupiter's planetoids, the certified speed of sound and similar physical phenomena can be accounted for by supposing that the planetoids do not move in constant ways, by denying that there are constant measures of time and space, or by denying that we see or hear what causes us to see or hear. The last is the most moderate proposal. It allows us to say that we are here and now stimulated to become alert to what is there and now by a stimulus which had its origin in the distant past. That origin, however, is gone; it does not now affect the things that now stimulate or that we now perceive. Nor does what stimulates us have anything to do with the nature of what we see now. We are stimulated, made awake by present irritants, and as a consequence open our eyes and ears to what is outside them. Having grasped something of our contemporaries in this way, we then, to account for various aberrations in planetoid behavior and common sense experience, build up a theory of the way in which light rays and sound waves travel through space. Those rays are not perceived, nor are they messengers telling us about the nature of the objects from which they issued. They are travellers, disturbing us, and then only when and as they come in contact with us. They prompt us to look through and with our eyes, hear through and with our ears, to perceive what is now over against us. Only some such account as this seems able to do justice both to the facts of perception and to the experiments and evidences and observations of science. It seems in fact to be the only alternative possible, for the others all destroy themselves. By denying the existence of a perceived, objective, contemporary world they deny any possibility of producing evidence in their favor.

We cannot plausibly reject one fact all the theories accept: light rays and sound waves take time to bridge a distance. But we can and must deny a supposition they all make to the effect that *every* connection and occurrence takes time to bridge a distance. Light rays and sound waves bridge a distance by traversing it sequentially; relations of comparison and perception bridge it without traversing it at all.

The former takes time to connect stars and men, the latter does not.

The objects we perceive in the far distance are as contemporary as those nearby. Just as the nose is co-present with the finger, just as our shoes are contemporary with our socks, so our eyes are contemporary with the stars we see at night. This assertion is not incompatible with the truth that it takes time for a physical action begun at one point of space to be effective at another. We feel the effects of causes which have long passed away, but we feel them in the present. The effects of those causes, no less than the world which those effects stimulate us to observe, are contemporary with us. Only the causes are separated from us in time as well as space.

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Critical Studies

PLOTINUS: A DEFINITIVE EDITION AND A NEW TRANSLATION

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Since the *editio princeps* was published in 1580 the *Enneads* of Plotinus have been edited in their entirety six times: by Creuzer and Moser in 1835 and again in 1855,[1] by Kirchhoff in 1856, by Müller in 1878-1880, by Volkmann in 1883-1884, and by Bréhier in 1924-1938.[2] None of these is a truly critical edition. Creuzer in 1835 gave more information, however undigested and confusing, concerning the readings of the MSS than did any of his successors; and since that time, despite the advances made by Kirchhoff and Müller in distinguishing the families of the principal MSS, each succeeding edition has been a further departure from the MS tradition and

[1] That of 1835 is the edition in three volumes printed at Oxford by the University Press; that of 1855 published by Didot in Paris is a reprint with some corrections and alterations of the Oxford text and Ficino's translation but without the critical apparatus, the commentary, and the indices. References to "Creuzer," unless otherwise specified, are always to the edition of 1835.

[2] In 1947 there was published the first volume of *Le Enneadi: Introduzione, testo critico, traduzione, e note* di Giuseppe Faggin, Milano, Istituto Editoriale Italiano. The second volume appeared later in the same year, and the third in 1948. So far as I can discover only these three volumes, containing Porphyry's *Life of Plotinus* and the first three *Enneads*, have been published, though Faggin intended to edit and translate all of the *Enneads*. He based his text (cf. vol. I, pp. xxv-xxvi) upon the MSS A, B, C, D, E, M, Q, and Marc. B (i.e. Marcianus Graecus 241); but for the readings of the first five he depended upon the reports of Creuzer, Volkmann, and Bréhier — which are defective — and collated only the last three himself, though Marc. B is merely a copy of A and so, worthless. His text and apparatus cannot be considered as critically sound (cf. Schwyzer, *Gnomon*, XXI [1949], pp. 64-67); and of both text and translation it has been rightly said that they "risentono molto di Bréhier."

a further obscuration of the evidence.[3] Since early in 1951, however, a halt has been called to this tendency, and for the first three *Enneads* students of Plotinus now have at their disposal an edition which is a model of philological erudition and of painstaking, conscientious, and systematic scholarship. This is the first volume of the complete edition of Plotinus which is being edited by Paul Henry and H.-R. Schwyzer.[4]

Both editors have long been known for their work on Plotinus. Schwyzer has published important articles on the MSS A, V, and D (*Rhein. Mus.*, LXXXVI [1937], pp. 270-285 and pp. 358-384; *ibid.*, XCIII [1950], pp. 154-158), on the Pseudo-Aristotelian *Theology* and its relation to Porphyry's edition of the *Enneads* (*ibid.*, XC [1941], pp. 216-236), on Plotinus' interpretation of *Timaeus* 35 A (*ibid.*, LXXXIV [1935], pp. 300-368), and on the relation of Plotinus' triad of hypostases to his interpretation of *Parmenides* 139-145 (*Mus. Helvet.*, I [1944], pp. 87-99); and he is the author of the new article on Plotinus in the Pauly-Wissowa *Realencyclopädie* (XXI, 1 [1951], cols. 471-592). Ever since 1933 Henry has been publishing a series of books and articles dealing with the text of Plotinus, its constitution, influence, and transmission. Of these works three books are especially important, since they were meant to constitute a critical introduction to the edition of the *Enneads*.[5] The first of these, *Recherches sur la Préparation Évangélique d'Eusèbe et l'Édition Perdue des Oeuvres*

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[3] For example, I have in casual reading of the first three *Enneads* come upon more than 120 passages in Bréhier's text where without any indication in his apparatus he prints what has either the slightest MS authority or none at all and so implies that these readings, many of which are conjectures of Kirchhoff's, Müller's, or Volkmann's, represent the consensus of the MSS.

[4] *Plotini Opera. Tomus I: Porphyri Vita Plotini, Enneades I-III* ediderunt Paul Henry et Hans-Rudolf Schwyzer (Museum Lessianum Series Philosophica XXXIII). Paris, Desclée de Brouwer-Brussels, l'Édition Universelle, 1951. Pp. LVIII + 420 with a photogravure of Codex A, Folio 62^r.

[5] Special attention should also be called in this connection to two of Henry's articles: "La Longueur des Lignes dans l'Archetype des Ennéades de Plotin" (*Rév. Ét. Grecques*, XLIX[1936], pp. 571-585 and "Vers la Reconstitution de l'Enseignement Oral de Plotin" (*Acad. Royale de Belgique, Bull. de la Classe des Lettres*, XXIII [1937], pp. 310-342).

de Plotin Publiée par Eustochius (Paris, Leroux, 1935), undertakes to establish the fidelity of Porphyry, the first editor of the *Enneads*, to the autographs of Plotinus from which he made his recension.[6] The second, *Études Plotiniennes* I: *Les États du Texte de Plotin* (Paris, De Brouwer, 1938), a detailed study of the indirect tradition, reinforces this conclusion and establishes the authority of the archetype of the direct tradition. That archetype, Henry concludes, was as faithful to the recension of Porphyry as Porphyry was to the original written by Plotinus, and the indirect tradition is rather a guarantee of the faithfulness of the Porphyrian edition reproduced by the archetype than a source of corrections for the text of our MSS. The third volume, *Études Plotiniennes II*: *Les Manuscrits des Ennéades* (Paris, De Brouwer, 1941; Deuxième Édition, 1948), an exhaustive study of the character and history of the extant MSS, has for its purpose the determination of the necessary and sufficient evidence for the reconstitution of the archetype, the common ancestor of all the MSS of the direct tradition. No attempt is made to establish a *stemma* leading from the original to the extant MSS. Henry is here concerned rather to identify in the mass of material all the representative elements of the direct tradition and so to establish the apparatus of the critical edition on a basis broad enough to be forever independent of any hypothesis concerning the ultimate relations of the families represented by the extant MSS.[7] In four chapters he studies the MSS of groups w, x, y, z respectively, in a fifth the MSS which Perna used for the *editio princeps*, and in two Appendices four lost MSS of which some record remains and the fragment of Eusebius in Vaticanus Rossianus 986. The volume is equipped with a detailed inventory of the MSS, a table of watermarks, and an index of proper names. One of the most important results of this study of Henry's is the identification of the MSS derivative from A (Laurentianus 87, 3), several of which had been used as independent witnesses to the arche-

[6] This volume was reviewed by Schwyzer in Gnomon, XII (1936), pp. 543-549.

[7] Suggestions of possibe *stemmata* are reserved for the *Histoire du Texte de Plotin*, which in Henry's plan was announced as a third volume of the *Études Plotiniennes*, a volume in which the results of the analysis of the first two volumes would be synthesized.

typal text but which Henry has shown to have no textual authority whatever. The results of this volume, however, are to be corrected in the light of three pages of "Corrections et Compléments" at the end of the second edition (1948), which save for this list is an exact reimpression of the first. In 1946 Henry and Schwyzer began their collaboration in the preparation of the critical edition, and their study of the variants led them to certain conclusions different from those that Henry had printed in *Les Manuscrits*. In particular, they decided that D (Marcianus Graecus 209), which Henry had, though with some hesitation, treated as a member of family y (cf. *Les Manuscrits*, p. 149), does not belong to y or to any other of the recognized groups of MSS but constitutes a family of its own; and they distinguished in the hand which Henry had hitherto called A^1 and Schwyzer A^2 (cf. *Les Manuscrits*, pp. 20-30) two separate hands: one, hereafter to be called A^1, which they believe to be that of the scribe of A himself correcting his MS from a source different from any extant MS and different also from the sub-archetypes of these MSS, so that the readings of A^1 must represent a separate family or another archetype (cf. pp. XIII-XIV of *Plotini Opera* I); and a second, hereafter to be called A^2, the corrections of which appear to be conjectures and so to have no authority for the text.

The results of *Les États* and *Les Manuscrits*, which are the methodological foundation of the new text, are succinctly recapitulated in the *Praefatio* to *Plotini Opera* I. Here the editors begin by expressing their conviction that Porphyry, though he made some orthographical alterations, refrained entirely from altering the words and opinions of Plotinus or from clarifying obscure passages by the addition of notes or comments and that the extant MSS of the *Enneads* have faithfully preserved the edition of Porphyry.[8] The archetype of our MSS was, they believe, written some time between the 9th century and the 12th; and, since they hold that this archetype was very slightly corrupted, they consider it to be their primary

[8] Contrast Bréhier s statement in the Introduction to his edition (Plotin, *Ennéades* I, pp. XXXIX-XLII): "Il y a dans nos manuscrits deux traditions inextricablement mêlées, qu'il est impossible de séparer par aucun moyen." "Notre tradition manuscrite est à la fois uniforme et très défectueuse." "Il est indispensable . . . de faire appel aux conjectures."

duty to restore this archetype, in doing which they maintain that they are restoring Plotinus' own words. They then describe the primary MSS, which they divide into five families,[9] and ten secondary MSS derivative from them of which they have made occasional mention in their apparatus. Of the latter they collated only K (Parisinus Coislianus 169) in its entirety; but of the primary MSS they collated in their entirety all those of the families w, x, z, and D and U, S, M of the family y. C they collated only for the *Life of Plotinus* and the *Pinax;* N and V they did not collate themselves, and they cite the readings of these MSS only when U, S, and M are not in agreement. Here one must observe with admiration that their method of collaboration was not to divide the work between themselves but to duplicate it; each of them inspected the MSS and worked out his text independently, and then the two of them together considered the doubtful readings, studied the difficult passages, and decided in concert the text finally to be adopted. An apparatus which is the result of such collaboration commands and deserves a degree of confidence such as can be granted that of very few Greek texts; and the care and patience which such collaborators have devoted to their work give them the right to express the severe judgments that they pass upon the earlier editors of Plotinus.[10]

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[9] Family w: A (Laurentianus 87, 3), E (Parisinus Gr. 1976); Family x: B (Laurentianus 85, 15), R (Vaticanus Reginensis Gr. 97), J (Parisinus Gr. 2082); Family y: U (Vaticanus Urbinas Gr. 62), S (Berolinensis Gr. 375), N (Monacensis Gr. 215), M (Marcianus Gr. 240), C (Monacensis Gr. 449), V (Vindobonensis philosophicus Gr. 226); Family z: Q (Marcianus Gr. 242), L (Ambrosianus Gr. 667); Family D: D (Marcianus Gr. 209). Besides these five families a sixth is represented by A^1, the first corrector of A (see page 242 *supra*); and J^1, the scribe of J as A^1 is the scribe of A, is presumed to have drawn *some* of his readings, which correct errors in all other MSS (e.g. III, vii, 9, 2: *συνεχοῦς οὔσης*), from a MS of a seventh family or from another archetype. Henry and Schwyzer are confident that families w, y, and z are descended from three distinct MSS, but they are uncertain whether the MSS of family x also are descended from a single MS or come each from a different sub-archetype.

[10] The earlier editions are analysed and criticized on pp. XXV-XXXI of the Praefatio: some examples of the erroneous reporting of each are given on pp. XXX-XXXI, where an index of the editors' conscientiousness may be seen in the fact that Henry's own errors in *Les États* are exemplified with the rest.

In selecting their text they have trusted w more than z, y more than w or x, the consensus xy more than wz, and the consensus wx more than the consensus yz. They have given great weight to the corrections of A^1; but contrary to the practice of earlier editors they have very seldom adopted readings which A alone exhibits, since they believe that E, not A, is the closer to the original, w.[11] Even in orthography they have followed the MSS closely, trying to be faithful to the archetype even in this matter. In their apparatus they profess to give all the variants at least of the primary MSS and to indicate which of the earlier editors adopted those variants that they reject; and they have generously recorded even for passages which they hold to be sound suggested emendations against which they think the reader should be warned. A bibliography at the end of the Praefatio lists *in extenso* the works to which abbreviated reference is made in the apparatus. They have moreover briefly explained in the apparatus how they understand those difficult passages for which they have kept the text of the MSS that others have emended, and in other places they have duly confessed their inability fully to understand the text which they nevertheless believe to be authentic. Four pages of Sigla and Compendia explain the elaborate system of symbols, abbreviations, and variations of type whereby they have contrived to make their apparatus at once exhaustive and succinct.

This apparatus, which is the heart of the work, gives the student of Plotinus for the first time a clear and complete schematic account of the direct MS tradition of the text and a history of its treatment in the printed editions. Between the text itself and this apparatus criticus are printed four other apparatuses. Directly under the text there is a compendium of the MSS which represent the archetype (Enn.) for the text of

[11] On p. XXXII they give a list of four passages in which, nevertheless, they adopt the reading exhibited by A alone and of 16 passages in which they follow one of the MSS, B, J, U, or Q, against all the others. In addition I have noticed ten passages in which they follow y against all other MSS (i.e. against wx, wxQ, or wxQD), five in which they follow x against all others, three in which they follow w against all others, and three in which they follow wz against xy. These figures are the result of occasional, not systematic observation; but they show that the rule of preference expressed in the Praefatio is not to be interpreted strictly.

that page. Below this comes a collection of the indirect tradition, *i.e.* ancient passages in which the words of Plotinus on this page are quoted (preceded by "=") or paraphrased (preceded by "cf."). After this there is a collection of the passages to which Plotinus refers (preceded by "cf.") or which he quotes (preceded by "="). Occasionally, when the passage referred to is no longer extant, passages of similar content to it are cited, but mere parallels to Plotinus' words are not collected. Finally, immediately above the apparatus criticus those marginalia are printed which appear to have been derived from the archetype, but only those.

The volume is beautifully set and printed on excellent paper. I have observed no misprints at all in the text and none of any significance in the notes. On p. 118 in the second apparatus the note on I, vii, 1, 1-4 [12] refers to "eth. Nic. A 8, 1098 b 14-16," which should presumably be A 6, 1098 a 14-16. On .p 262 the critical note on III, i, 6, 1 is "*αὐτῶν* xBJQ: *αὐτῶν* Ry." Since BRJ constitute x, x in this note must be a misprint, probably for w. On p. 317 in the critical note on III, iv, 6, 30 the closing parenthesis after "transpositum" is missing. On p. 321 in the critical note on III, v, 1, 58/59 the accent of *ἄμφω* is missing. On p. 348 the reference on III, vi, 8, 11-12, "cf. Plat. Tim. 52 a 8", which is in the second apparatus (*i.e.* indirect tradition), belongs in the third apparatus (*i.e.* sources). On p. 393 in the critical note on III, vii, 13, 36 the symbol "A" has presumably dropped out after "*αὐτῆς*" and before the parenthesis. On p. 401 the critical note on III, viii, 5, 28 reads "*οὕτως* Jy: *οὕτως* wBR". Since "*οὕτω*" is printed in the text, the first "*οὕτως*" in the note is apparently a misprint for "*οὕτω*." On p. 406 in the critical note on III, viii, 9, 11 both "*συνέζευκτο*" and "*συνέζευκται*" are ascribed to J *simpliciter*. One J is certainly a misprint, probably for B, the MS of x not accounted for in the note.

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[12] In this edition the *Enneads* are numbered by treatise and section in the traditional fashion. The lines of each section are numbered consecutively; and these line-numbers correspond very closely to those of Bréhier's edition. There is no division into paragraphs such as that adopted by Harder from Oppermann and followed by Cilento. It is to be hoped that all scholars will hereafter make their references to Plotinus by *Ennead*, treatise, section, and line of the edition of Henry and Schwyzer.

As Schwyzer himself once wrote,[13] only one who has the MS material at his disposal can pass judgment on the merits of a critical edition. Since I am not in a position to compare the reports of Henry and Schwyzer with the MSS of the *Enneads*,[14] I can only try to give a description of the text as they have constituted it; and this I think can be done most clearly and usefully by comparing it with the text most widely used in this country today, that of Bréhier in the "Budé Series." In making this comparison I have disregarded mere differences of orthography which do not affect the meaning of the words or the construction of the language, though even in these matters Henry and Schwyzer contrary to the practice of earlier editors have followed the MS tradition closely and have not tried to regularize Plotinus' usage.

Apart from these orthographical differences, in Porphyry's *Life of Plotinus* the text of Henry and Schwyzer differs from that of Bréhier in 78 places. In addition, in chapters 24-26 Henry and Schwyzer alone of recent editors print the *incipits* in the text; and after the *Life* they print the *Pinax*, which is omitted in all other editions, though Creuzer printed it in a note at the end of the *Life*. Where they differ from Bréhier's text they have either all the MS authority or the significant preponderance of it in their favor, and in eight of these places they follow the MSS of the *Life* or their preponderance against the MSS of the *Enneads*. They depart from the MSS in ten places, in nine of which they agree with Bréhier's text.[15]

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[13] *Gnomon*, XXI (1949), p. 64.

[14] Consequently where I speak of "the readings of the MSS" or "MS authority" hereafter I do so on the basis of the reports of Henry and Schwyzer, the accuracy of which I cannot myself test.

[15] The tenth is 16, 15, where they adopt Wilamowitz's emendation, "ὅλως," for "ὅπως" of the MSS which Bréhier, like Volkmann, deletes after Cobet. In 18, 23 for "ἐποίησεν" of the MSS they adopt with all editors from Creuzer on Dobler's "ἐποίησα" from a correction in C. and Marc. Gr. 241; but their own suggestion of "'Αμέλιος (for "'Αμέλιον" -MSS) . . . ἐποίησεν" is preferable to this. In view of their ordinary conservatism it is strange to see them in 8, 1 reject "μεταβαλεῖν" of all MSS, which Pugliese, Faggin, and Cilento retain, in favor of Dübner's "μεταλαβεῖν," adopted by Kirchhoff Müller, Volkmann, and Bréhier. Creuzer's note in defence of "μεταβαλεῖν" seems to be unexceptionable. Probably the δὶς affected Henry and Schwyzer; but "δὶς μεταβαλεῖν" is the same kind of illogical idiom as is "to rewrite it a second time" in English.

In the first three *Enneads*, to the best of my observation, the new edition differs from that of Bréhier in 1414 places,[16] in 1243 of which Bréhier exhibits the same text as Volkmann. In five places where Bréhier has adopted an emendation Henry and Schwyzer dagger the passage.[17] In 62 places they adopt emendations that are not to be found in Bréhier; 32 of these are their own and 30 have been adopted from other scholars. Of the former group of 32 eight are corrections already made in some MS [18] or are drawn from the indirect tradition, and 12 others involve only changes of accent, breathing, or word-division. Of the latter group of 30 at least seven involve only changes of accent, breathing, or word-division. In 29 of these 62 passages Bréhier adopted a reading exhibited by all or some of the MSS; in the rest he printed emendations other than those adopted by Henry and Schwyzer. Besides these 62 deviations from the MSS, Henry and Schwyzer adopt 105 emendations which had already been adopted by Bréhier; of these, however, 33 are corrections already made in some MS[19] or drawn from the indirect tradition, and 28 others involve only changes of accent, breathing, or word-division. Since in the first three *Enneads* the new editors admit that in 172 places all the MSS are in error, their confidence in the fidelity of our MSS to the archetype or of the archetype to Porphyry's edition may be

[16] This does not take into account obvious misprints in Bréhier's text such as his "αὐτὸν" at I, viii, 7, 13, "ὑμεῖς" at II, ix, 7, 15, and "λέγειν" at III, vii, 3, 9. Here it should also be observed that Henry and Schwyzer do not print at II, iii, 5, 21 the passage (II, iii, 5, 21-41 [Bréhier]) which all earlier editors, following the example of Ficino, have transferred to this place but print it in brackets as II, iii, 12, 12-32 at the place where it appears in the MSS. They admit that it has to do with chapter 5 but refuse to decide whether it was written by Plotinus or by some adherent of astrology. After I, ix they print Elias, *Prolegomena Philosophiae*, pp. 15, 23-16, 2 (Busse), which according to Henry is a fragment of the non-Porphyrean recension; but they maintain that I, ix as it exists in the MSS is both genuine and intact.

[17] I, ii, 4, 27/28; II, iv, 16, 14; II, vii, 2, 16 (the reading of F^{3mg} adopted by Bréhier is Ficino's conjecture); II, ix, 18, 13/14; III, vii, 13, 50.

[18] At least one of these, however, is in origin a conjecture of Ficino's (III, vi, 11, 30).

[19] Five of these, however, are in reality conjectures of Ficino's (i.e. A^3 or F^3).

said to be reasonably qualified; but the fact remains that in well over 1300 places their text represents a rehabilitation of the MS tradition against the increasing disrespect of earlier editors.

In part this rehabilitation is the result simply of the exhaustive and exact knowledge of the MSS that Henry and Schwyzer have acquired and systematized. In *Ennead* III, vi, 4, 14, for example, a bothersome passage has been made clear by recovery of the MS readings of the main families.[20] At II, viii, 1, 45 Bréhier printed "<τῆς> ὄψεως" as Volkmann's conjecture; and Cilento also says that Volkmann "prefixed the article, which is perhaps necessary." The fact now appears to be that "τῆς ὄψεως" is the reading of all the MSS. Creuzer had printed it without any annotation; Kirchhoff deleted the phrase, and Müller "replaced" "ὄψεως" alone without mentioning "τῆς." Volkmann then, thinking that Müller's text was the reading of the MSS, "conjectured" "<τῆς>." A third of many possible examples is the reading in chapter 7, 3-5 of Porphyry's *Life of Plotinus*. Here Bréhier printed "αὐτὸν . . . αὐτῷ," ascribing this emendation to Cobet and reporting "αὐτὸν . . . αὐτῷ" as the reading of the MSS. In this he followed Volkmann's example. Creuzer, Kirchhoff, and Müller had printed "αὐτὸν . . . αὐτῷ" without any remark as if this were the reading of the MSS; and, misled by this, Cilento (I, pp. 288 f.) wrote: "I have restored from the MSS αὐτὸν . . . αὐτῷ in place of αὐτὸν . . . αὐτῷ proposed by Cobet . . ." It now appears, however, that "Cobet's emendation" is in fact the MS tradition;[21] and there can no longer be any doubt that according to Porphyry it was Plotinus who preferred to call Amelius "Amerius", and not Amelius himself.

This last example illustrates the effect that an apparently trivial alteration in the text may have. It also raises the question whether the conservatism of the new edition is in all cases

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[20] The "ἐκτός" of w was read by all editors and was translated even by Harder (unabhängig") and Cilento ("indipendentemente") in a way both forced and incomprehensible. The correct reading adopted by Henry and Schwyzer from all other MSS is simply "ἐκ."

[21] According to the apparatus of Henry and Schwyzer the only variant of "αὐτὸν . . . αὐτῷ" is "αὐτὸν" for the former written as a correction in A.

justified, for it is possible to contend that sense and usage should be preferred even to the consensus of the MSS. In at least 198 places the new text differs from that of Bréhier only in reading the intensive (i.e. some form of "*αὐτοῦ*") where Bréhier gives the analogous form of the reflexive pronoun (i.e. a form of "*αὑτοῦ*").[22] In most of these cases the new editors have all the MSS or a significant preponderance of them in their favor; but in the mere matter of a breathing surely no MS or group of MSS can be trusted against sense and usage, and Henry and Schwyzer themselves abandon the MSS in such matters often enough to cast doubt upon the infallibility of the tradition in other cases.[23] Where either the intensive or the reflexive could conceivably stand, it is reasonable to follow the consensus of the MSS; but in many, if not most, of the places where Henry and Schwyzer "restore" the intensive it is clear that the reflexive is required.[24] In a good many other passages also

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[22] In III, ii, 7, 32, on the other hand, Henry and Schwyzer preserve "*ἑαυτῶν*" of the MSS where Bréhier adopts Kirchhoff's emendation, "*αὐτῶν*."

[23] Not to mention many other examples, Henry and Schwyzer read "*αὐτὴν*" in I, i, 6, 5 where the MSS have "*αὐτὴν*"; "*αὐτῷ*" with R^{pc} in I, ii, 5, 31 where Porphyry has "*ἑαυτῷ*" but all the MSS have either "*αὐτῶ*" or "*αὐτὸ*"; "*ᾗ*" in II, vii, 2, 7 where the MSS have "*ᾗ*," "*οὗ*" in II, ix, 17, 41 where the MSS have "*οὗ*"; "*αὐτῷ*" in III, ii, 2, 6 where the MSS have "*αὐτῶ*"; "*ᾗ*" in III, ii, 14, 26 where the MSS have "*ᾗ*"; "*αὐτὰ*" in III, vi, 6, 44 where the MSS have "*αὐτὰ*"; "*αὐτῷ . . . αὐτῷ*" in III, vii, 11, 25 and 26 where the MSS have "*αὐτῶ . . . αὐτῶ*."

[24] There is room here to cite only a few examples. In III, vi, 6, 42 Henry and Schwyzer write "*αὐταρκέστερα αὐτοῖς*" with the MSS, though in III, ii, 2, 6 they adopt the "*ἀρκεῖ αὐτῷ*" of earlier editors where all the MSS have "*αὐτῶ*." In III, vi, 13, 10 they write "*μηδέποτε αὐτῆς ἐξισταμένην*," though RSM have "*αὐτῆς*," which is necessary; cf. III, vi, 11, 36/37 ("*οὐ γὰρ ἐξίσταται ἑαυτῆς*") and III, vi, 10, 18-19 "*ἢ . . . αὐτῆς ἐξίστασθαι ἢ μὴ ἐξισταμένην αὐτῆς . . .*"). In II, ii, 1, 27 they write "*κύκλῳ κινεῖσθαι ἐξ αὐτοῦ*" with the MSS, though A^{pc} has "*αὐτοῦ*," which is necessary and supported by III, i, 2, 24/25 where Henry and Schwyzer write "*κινουμένων ἑκάστων οὐκ ἐξ αὐτῶν*," although A^{ac}EBQ have "*αὐτῶν*." They adopt "*τῇ αὐτῆς φύσει*" in II, iv, 8, 7 and III, vi, 13, 9, though in the former place M and in the latter RJy have the necessary "*αὐτῆς*"; yet in II, iv, 8, 14 they print "*τῇ αὐτῆς φύσει*," though EBUS^{ac}Q have "*αὐτῆς*" and in III, vi, 14, 23 they print "*τῇ αὐτοῦ φύσει*" despite the erroneous "*αὐτοῦ*" of wBJQ. In III, viii, 3, 2 they adopt "*ἐν αὐτῷ μένων*,"

the conservatism of the new editors countenances a degree of unintelligibility that many scholars will feel exceeds even what can be generously granted to Plotinus' style and method of composition. By way of example I call attention to a few of these:

I, v, 7, 26: "*οὐδὲ τὸ χρονικὸν δὲ ἀεὶ τῷ αἰῶνι*," the reading of the MSS preserved by Henry and Schwyzer is surely wrong in the context. Some emendation is necessary; and that of Kirchhoff, adopted by all subsequent editors and by Harder and Cilento, makes sense of the passage.

I, vi, 7, 34: Henry and Schwyzer retain "*οὗτος*" of the MSS, though earlier Henry had himself suggested "*πάντως*," which Cilento accepted. The passage clamors for Vitringa's "*ὄντως*", and it should be observed that in III, viii, 9, 4 Henry and Schwyzer adopt Kirchhoff's "*ὄντως*" where all MSS have "*οὕτως*".

I, viii, 4, 3-4: Henry and Schwyzer adopt "*φορά τε . . . ἄτακτος*" of BJyQ, where wR have "*φθορά τε . . . ἄτακτος*". The following "*ἐμπόδια*" shows that the subject of "*φθείρει*" (i.e. "*σώματα*") runs through, so that "*φορά τε . . . ἄτακτος*" cannot be understood as an independent clause. Emendation is necessary.

II, iii, 11, 2: Henry and Schwyzer keep "*ἐστιν*" of the MSS, though Kirchhoff's change to "*εἶσιν*" is required by sense, grammar, and the following "*ἔρχεται*". Obviously "*εἶσιν*" was misread as "*εἰσιν*", and this was changed to "*ἐστιν*" because of the singular subject; and this "emendation" was earlier than all of our MSS.

III, ii, 8, 40: Henry and Schwyzer retain "*οὐδ' ἀγανακτεῖν δέ*" of the MSS. Henry had already defended this reading in *Études*, p. 150; and Cilento (II, p. 378) protests against this conservatism. Kirchhoff's "*δεῖ*" for "*δέ*" is almost certainly right.

III, vi, 17, 15-16: "*. . . μετὰ τό τι μέγα . . . καὶ τὸ μὲν αὐτό . . .*" This reading of all MSS (save that J^{ac}Q have "*αὐτοῦ*" for "*αὐτό*") is retained by Henry and Schwyzer, who nevertheless suggest in the apparatus the emendation: . . . "*μέγα, τό τι μέγα*" for the first phrase. This with Vitringa's emendation, "*καὶ τὸ μέγα αὐτό*" for the second phrase is so obviously correct that it approaches obscurantism to print in the text the senseless readings of the MSS.

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though ARJ have the necessary reflexive which Henry and Schwyzer do adopt in the same phrase at III, vii, 3, 20/21 ("*μένοντος . . . ἐν αὐτῷ*"), where wRJMQ have "*αὐτῶ*," and at III, viii, 4, 26 ("*ἐν αὐτῇ . . . μένειν*"), where A^{ac}EUSN have the erroneous "*αὐτῆ*." There are scores of such other inconsistencies in what might be called "the conservation of the intensive" by Henry and Schwyzer.

In all these passages and many more, too complicated for discussion here, what really matters, however, is not that a reader may disagree with the text chosen by the editors but that they in their apparatus have made available to him for the first time the exhaustive and reliable information from which alone it is possible to form a critical opinion of the text.

Both this apparatus criticus and that which gives the indirect tradition leave practically nothing to be desired.[25] The same cannot be said for the apparatus of Plotinus' quotations and references, which, though usually correct so far as it goes, is anything but exhaustive, passing over in silence as it does at least a hundred easily identifiable references or reminiscences, of which I have room here to give only a few of the typical and obvious examples in the first *Ennead*:

I, i, 5, 9-11: Cf. Plato, *Philebus* 33 D - 34 A; *Timaeus* 43 C and 45 D (references to these passages should be made at I, i, 6, 10-12 and I, iv, 2, 3-4 also).

I, ii, 4, 24-25: Cf. Plato, *Theaetetus* 193 C 3-4 (cf. 192 A and 194 B).

I, ii, 6, 13: Cf. Plato, *Republic* 490 B 2-7 and *Timaeus* 37 A 6; Aristotle, *Metaphysics* 1072 B 20-21; Speusippus *apud* Proclus, *In Primum Euclidis Librum*, p. 179, 18 (Friedlein); Theophrastus, *Metaph.* 9 B 13-16.

I, iii, 3, 5-10: The whole passage is derived from Plato, *Republic* VII. With lines 5-7 cf. *Republic* 525 D 5-8 and 527 B 9-11; with line 7 (φιλομαθὴς ὤν) cf. *Republic* 376 B 8-9; with lines 8-10 cf. *Republic* 534 E.

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[25] The editors do not always indicate that variants which they reject have been adopted by earlier editors, and there are also a few other omissions in the apparatus criticus. In *Vita* 11, 18 Creuzer's suggestion, "τοῦ δὲ" for "τοῦ τε," is not mentioned, though Cilento adopted it. At I, iii, 2, 12 Müller's "ἐγγίνεται," suggested by Ficino's "quomodo adveniat" and adopted by Cilento, is not recorded; nor is Creuzer's "οἷον καὶ" (i.e. "[καὶ] οἷον καὶ") in I, viii, 14, 35-36. At I, iii, 3, 8 Henry and Schwyzer say "<τὸ> φύσει suspic. Cilento" and do not notice that the suggestion had been made by Creuzer (III, p. 15 *sub fin.*).

The apparatus of the indirect tradition can also be supplemented in places, as for example: I, i, 8, 15-18 cf. Themistius, *De Anima*, p. 25, 34-36 (Heinze); I, ii, 2, 5-10 cf. Proclus, *In Parmenidem*, p. 912, 19-38 (Cousin [2]); I, ii, 6, 13 cf. Iamblichus, *De Comm. Math. Scientia*, p. 33, 19-20 (Festa); I, iii, 5, 8-10 (where in apparatus of sources add: cf. Alexander, *Anal. Prior.*, p. 1, 7-9 and *Topica*, p. 74, 29 ff.) cf. Ammonius, *Anal. Prior.*, p. 8, 20-25 (Wallies); and I, iii, 5, 10-12 cf. Ammonius, *ibid.*, p. 11, 1-20.

I, iii, 4, 1-15: For line 5 Henry and Schwyzer refer to Plato, *Sophist* 242 C 5-6; but this is not even parallel. The main source of lines 1-6 is probably *Sophist* 253 B-D but contaminated with other Platonic passages: *e.g.* with lines 5-6 (*τὰ μὴ ὄντα αὖ, ἕτερα δὲ ὄντων*) cf. *Sophist* 257 B 3 ff.; with line 6 (*αὕτη καὶ περὶ ἀγαθοῦ διαλέγεται*) cf. *Republic* 532 A - B. For lines 8-9 (*ἐπιστήμῃ . . . οὐ δόξῃ*) Henry and Schwyzer refer to *Republic* 534 C 6, for line 11 (*ἐν . . . ἀληθείας πεδίῳ*) to *Phaedrus* 248 B 6, and for line 12 (*διαιρέσει*) to *Phaedrus* 265 E — 266 B. In the last passage Plotinus may have had in mind *Sophist* 253 C as well; certainly line 14 (*καὶ ἐπὶ τὰ πρῶτα γένη*) refers to *Sophist* 254 D and line 15 (*πλέκουσα*) to *Sophist* 259 E 5-6. Lines 9-10 are a reminiscence of *Phaedo* 79 D.

I, iv, 10, 20: Cf. Aristotle, *De Anima* 431 A 16-17 and 432 A 12-14.

I, iv, 15, 19-20: Cf. Plato, *Phaedo* 77 E.

I, vi, 9, 1-6: With lines 1-2 cf. Plato, *Republic* 515 E — 516 A and with lines 3-6 cf. *Symposium* 210 B — C, which is here used to interpret the former passage.

I, viii, 3, 4-9: With lines 4-5 (*οἷον εἴδός τι τοῦ μὴ ὄντος*) cf. Plato, *Sophist* 258 D 6; with lines 6-7 cf. *Sophist* 257 B 3-4 and 258 E — 259 A; with lines 7-8 cf. *Sophist* 255 E — 256 E; with lines 8-9 cf. *Sophist* 240 B 12-13.

I, viii, 6, 28-29: Cf. Aristotle, *Categories* 3 B 24-25.

I, viii, 6, 36-37: Cf. Aristotle, *Categories* 14 A 15-16.

I, viii, 6, 40-41: Cf. Arristotle, *Categories* 6 A 17 and *Eth. Nic.* 1108 B 33-34.

I, viii, 7, 7: Cf. Plato, *Timaeus* 53 B 1-5 (not *Politicus* 273 D 4 as Henry and Schwyzer suggest in their apparatus criticus).

I, viii, 8, 3-4: Cf. Plato, *Timaeus* 86 E 1-2.

I, viii, 13, 24-25: Cf. Plato, *Republic* 533 D 1-3.

The incompleteness of this apparatus does not, of course, impair the essential value of the edition. All students of Plotinus must feel unqualified gratitude for having had put at their disposal at last a truly critical edition of the first three *Enneads* and must hope that their gratitude may lend the editors strength to bring to successful completion the arduous task that they have so auspiciously begun.

Scarcely more than a year before the publication of this edition by Henry and Schwyzer there appeared the final volume

of a new Italian translation of Plotinus by Vincenzo Cilento.[26] Cilento did not simply translate one of the published texts but tried conscientiously to make his translation represent the archetype of the extant MSS in so far as he could restore that archetype from the published reports of the MSS. With his translation of the *Enneads* and Porphyry's *Life of Plotinus* is published a "critical commentary" in which he discusses the significant variants in the textual tradition and in each case seeks to justify the reading that he has adopted for translation. Besides Henry's earlier studies of the direct and indirect traditions, of which Cilento made full use and which had convinced him of the fidelity of Porphyry's edition to the Plotinian original,[27] he had at his disposal selections of Schwyzer's collations for certain sections. Even this and a careful study of earlier editions did not suffice, however, to make possible an accurate report of the MSS; and a comparison of his "commentary" with the apparatus of Henry and Schwyzer shows clearly how indispensable for a critical opinion of the text are their exhaustive collations and reports.[28] By the appearance of their ap-

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[26] *Plotino*: Enneadi. *Prima Versione Integra et Commentario Critico* di Vincenzo Cilento. Bari, Laterza e Figli, Volume Primo, 1947; Volume Secundo, 1948; Volume Terzo, Parte I, 1949; Volume Terzo, Parte II, 1949.

[27] In some cases Cilento's conservatism exceeds even that of Henry and Schwyzer. So, for example, in the following passages he keeps the reading of the MSS where they adopt an emendation: — *Vita* 22, 40; *Enneads* I, i, 2, 27; I, ii, 7, 14; II, ix, 9, 50; II, ix, 16, 45.

[28] In the note on *Vita* 8, 11 (= 44 <14, 20>, I, p. 291 [Cilento]) "μεταβαλεῖν" is an unfortunate misprint for "μεταλαβεῖν": but even with this correction "gli Edd. tutti" is inexact, since Perna, Creuzer, and Pugliese read "μεταβάλλειν." I, viii, 2, 24 = I, p. 37 on 11 <100, 27>: not all the MSS have "περὶ" as Cilento says; y has "ἐπὶ," which Henry and Schwyzer adopt. I, viii, 14, 7 = I, p. 386 on 91 <112, 28>: "εἰλήσεων . . . mss." is wrong, for all but A have "εἰλήσεων." I, viii, 15, 20 = I, p. 387 on 106 <115, 8>: Cilento defends "ἔξωθεν dei mss.;" but all the MSS have ἔξω," which is not an emendation of Volkmann's. II, v, 4, 10 = I, p. 432 on 26 <170, 30>: not all MSS but *none* has ἢ, which is the reading of Perna and Creuzer. II, vi, 1, 50 = I, p. 435 on 9 <174, 13>: all MSS have "οὐσιῶν," not the "οὐσίας" that Cilento reports. II, viii, 1, 30-31 = I, p. 442 on 7 <182, 13>: Cilento writes: "τὸ εἶδός ἐστι mss."; but only A has this reading. II, ix, 1, 46 = I, p. 446 on 11 <185, 26>:

paratus his commentary on the first three *Enneads* has been rendered obsolete, though not all of his critical notes have lost their value; but until their edition of *Enneads* IV-VI is published Cilento's commentary on that part of the text must be taken into careful account by all students of Plotinus. The commentary is almost exclusively textual and contains no exegesis save occasionally to the extent necessary to defend the choice of text. Even Plotinus' quotations and references are only rarely identified, more rarely in fact than they are by Henry and Schwyzer, although Cilento does print at the end of his work (III, 2, pp. 251-315) a translation of some selected passages of the Presocratics, Plato, Aristotle, the Stoics, Epicurus, and Numenius with marginal references to a few of the places where Plotinus refers to them.

Cilento's translation is ordinarily far more accurate in rendering both the meaning and the nuances of the Greek text than is Bréhier's. He had the advantage of having at his disposal the excellent German translation by Richard Harder, of which he obviously made full and intelligent use; and in countless places his interpretation and Harder's is correct where

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All the MSS have not "ἔχομεν" but "ἔχοιεν." II, ix, 16, 54 = I, p. 456 on 161 <208, 15>: not all the MSS have "λαμβάνειν" but only w; the rest have "λαμβάνει." III, iii, 4, 2 = II, p. 393 on 21 <254, 17>: the "ταῦτα" which Cilento ascribes to the MSS is in USQ only, while wxM have the "ταὐτὰ" that he ascribes to Kirchhoff. This should suffice to exemplify the errors which Cilento was almost bound to make for lack of such collations as those of Henry and Schwyzer. In addition, however, Cilento sometimes errs concerning facts available to him. For example, I, vi, 2, 25 = I, p. 367 on 12 <87, 17>: "ἑαυτό" was not "universalmente accettata," for Bréhier did not accept it and Harder apparently did not translate it. At II, i, 8, 8 = I, p. 397 on 62 <128, 28> Cilento makes a similar misstatement concerning the emendation "πῦρ," as he does also in his next note on 62 <128, 31> concerning the excision of "τοῦτο" in II, i, 8, 11. The form of the title of II, vi which he ascribes (I, p. 434) to Müller alone was printed by Creuzer before him. The commentary is also silent at times where explanation of the reading is required. So, for example, Cilento translates II, iv, 13, 22 and II ,vi, 1, 38 without any negative and without any comment, though in the latter passage all MSS have "οὐ" (which all editors delete) and in the former all MSS save B have "οὐ."

Bréhier's misrepresents the meaning of the Greek.[29] At times he follows Harder in an erroneous interpretation;[30] but he is independent enough to be right occasionally where Harder is wrong or uncertain [31] and to depart from Harder's interpretation sometimes when it is quite correct.[32] He expands the text in such a way as to make intelligible without commentary the compendious and often cryptic expression of the original; and though this method produces a tone and a style entirely different from those of Plotinus, it does usually succeed in achieving clarity without falsifying the meaning or glozing over difficulties with a specious fluency. That the result is often an expanded paraphrase rather than a strict translation of Plotinus' words will make it the more useful both to Greekless readers and to students of the difficult original.

The second part of volume III, in which the critical commentary of *Enneads* V and VI is printed, contains besides a chronological synopsis of the treatises and a number of indices to the translation and commentary a critical bibliography of Plotinian studies prepared by Bert Mariën [33] and edited by Cilento. This bibliography, which with its indices and introduction fills 260 pages, lists not only books and articles dealing with all the various aspects of the study of Plotinus but also

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[29] A few examples in the first *Ennead* are I, ii, 3, 24-25; I, iii, 6, 3-4; I, iv, 2, 54-55; I, iv, 10, 19-21; I, vi, 6, 18; I, viii, 6, 21; I, viii, 8, 35-37.

[30] For example: I, i, 11, 7, where he adopts Harder's conjecture, "πρὸς ἃ" for "ὅσα" (not mentioned by Henry and Schwyzer); I, i, 12, 21-23, where Bréhier is substantially correct; I, vi, 5, 31, where Ficino, Bouillet, and Bréhier understood the text correctly. A particularly strange example is III, ii, 14, 12-13 where Cilento's translation (II, p. 35) agrees with Harder's, though in his note (II, p. 384 on 112 <242, 8-9>) he recognizes that Harder "expunged the negation" and appears to approve the translations of Ficino and Bréhier, which are in fact correct.

[31] For example in I, i, 4, 18; II, ii, 9, 18-19.

[32] For example in I, ii, 4, 25-27; I, iii, 4, 4; I, iii, 4, 18-20; I, iv, 7, 20-21; I, vi, 6, 29-30. An especially interesting example is provided by III, iii, 6, 16 where Harder correctly translated the "ἢ σοφοῦ τινος καὶ θείου" which Cilento, Bréhier, Mackenna, and Bouillet all misunderstood but where his German idiom may have confused Cilento in the same way as the Greek did.

[33] An important note by Bert Mariën on IV, viii, 2, 4 ff. is published by Cilento in his commentary (II, pp. 577-579).

gives references to the reviews of the books mentioned and succinct descriptions of the content and value of most of the writings listed. This work of selfless scholarship deserves the gratitude of all students of ancient philosophy, for whom it will often save many hours of preparatory searching and whom it will protect against many blunders of omission.[34]

The quality of Cilento's translation and of Mariën's bibliography inspires the hope that when Henry and Schwyzer have completed their edition Cilento may in the new light thrown upon the text publish a revised edition of his work with Mariën's bibliography brought up to date.

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[34] For corrections of some of the errors and oversights in this bibliography cf. P. Merlan, *Philosophical Review*, LXI (1952), pp. 415-417.

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FR. OWENS AND THE METAPHYSICS OF ARISTOTLE

The Doctrine of Being in the Aristotelian Metaphysics: A Study in the Greek Background of Mediaeval Thought, by Joseph Owens, C.Ss.R. Toronto: Pontifical Institute of Mediaeval Studies, 1951. Pp. xi, 461, with a preface by Etienne Gilson.

WILLIAM H. WALTON

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In this definitive study of the doctrine of Being in the Aristotelian *Metaphysics* the author attempts three things:

1. "To establish and to follow the methodical order in which Aristotle himself, for pedagogical reasons, wished his thought to be studied" (p. 38).

2. "To keep mediaeval as well as modern viewpoints from giving rise to any bias in probing the Greek text" (*Foreword,* p. x).

3. "To freeze the operational process and metaphysical analysis at the point which they reached with Aristotle, and to build the philosophical reasoning upon the data so acquired" (see *The Review of Metaphysics,* III p. 337).

In addition to this study, which was his doctoral thesis at the Pontifical Institute of Mediaeval Studies, the author contributed his own summary, "Report of a Recent Thesis Defended at the Pontifical Institute of Mediaeval Studies," to *Mediaeval Studies,* XI (1949) pp. 239-245.

Here he begins by acquainting his readers with the fact that the investigation arose from a seminar topic, namely, the well-known passage from Book *Gamma* in which Aristotle says that the nature of each thing is essentially a Being. Father Owens' commentary on this text was printed in the *Proceedings of the American Catholic Philosophical Association,* XXI (1946) pp. 165-172.

As a sequel to his major study he contributed "The Reality of the Aristotelian Separate Movers" to *The Review of Metaphysics*, III (1950) pp. 319-338.

Building upon Jaeger's principle that doctrinal content should be examined in close union with its form of expression, and making use of chronological and other studies of the *Metaphysics*, the author suggests a new way of reading the texts, namely the way that Aristotle wanted them read. In his *Preface* Etienne Gilson commends this "idea of a new methodological approach." The work under consideration, in fact, owes the better part of its originality to Owens' use of this method.

In discussing this problem of philosophical pedagogy, Father Owens analyzes the unusual type of literary product characteristic of the treatises which constitute the *Metaphysics*. These extant writings are in the form of school *logoi* so that the viewpoint of the moment as well as dependence on another *logos* or other *logoi* are of crucial importance. Such school *logoi* were normally read aloud, copied by the hearers, perhaps memorized to a degree and or used as the basis of subsequent oral discussion. If these *logoi* are interpreted in this light, a negative attitude towards a particular point of doctrine will not reveal the status of Aristotle's own knowledge but merely the ignorance of his hearers concerning that point. Where Aristotle expresses himself aporematically he is assuming uncertainty on the part of his hearers. The use of this aporematic technique does not reflect doubt in his own mind but rather the state of mind which he takes for granted in the hearers.

The author next analyzes in detail the Aristotelian "equivocals" or the "things expressed or meant in various ways." Of these the two most important types are (a) the analogous and (b) the things which are expressed by reference in various ways to one and the same nature. The former type (analogy) necessarily involves a four-term relation. In any given instance of the latter (equivocity by

reference to one) there are only two terms in the relation, which is that of a secondary instance to the primary. Hence this type is not analogous in the Aristotelian sense. Though there is nothing in the text of the *Metaphysics* to preclude the same thing from being equivocal in both ways — the two types are not mutually exclusive — they are clearly distinct, and care must be taken not to confuse them.

The "equivocals" are primarily things which are in some ways the same, in some ways different. Hence Aristotle's procedure is primarily a contemplation of things which are known directly and in themselves. The equivocals are concepts and terms only secondarily, for these are the signs of equivocal things. (Father Owens is later to hold that Being is a group of equivocals by reference to a One.)

In the last chapter of Part One the author suggests, and offers a well-reasoned defence of, the use of the English word "entity" to translate "*ousia.*"

After these considerations of technique Father Owens analyzes the Aristotelian treatises in detail and in their *methodical sequence* in order to trace the development of Aristotelian doctrine of Being. Part Two covers Books A, B, *Gamma* and E 1; Part Three E 2-4, Z,H, *Theta*, I; Part Four M, N, *Lambda*. The last chapter of Part Four contains a concluding summary.

Book *Delta*, which continued to be cited as an independent treatise long after Aristotle's death, is regarded as methodically belonging to our study of the problem at a point between E 1 and E 2-4, since it is the basis from which E 2-4 and the immediately following treatises proceed. Book K is regarded as an epitome of A, *Gamma* and E without any important doctrinal additions; K 8-12 may be ignored entirely in this study. The positive treatment of separate Entity is supplied as far as possible from N and *Lambda* though these treatises reveal no dependence upon the main series. Book a is regarded as genuinely Aristotelian and to contain valuable introductory doctrine but to be without any methodical union with the main

sequence of the treatises. The author's reasons for these conclusions are given in detail in Part I.

Before stating his conclusions Father Owens gives a painstaking textual interpretation of the treatises in their already-established methodical sequence.

In his study of the Aristotelian four causes the author very early reaches the conclusion that the highest causes are located as the four causes treated in the *Physics*, and these are ultimately seen as reduced to one cause, the form. In the *Metaphysics* the formal cause (which in the *Physics* was "the form and the archetype") is introduced as Entity (*ousia*). Further, the form is designated by the peculiarly Aristotelian expression (common to the descriptions of the formal cause in corresponding passages of the *Physics* and the *Metaphysics*) *what-IS-Being*. In this expression the "IS" is capitalized, as a sign that it is meant to express "timeless Being" as the basis of formal necessity. This phrase presents the notion of a cause opposed to the unintelligible matter, expressing thereby the formal, intelligible perfection of a thing.

The *what-is* may express the thing as matter, or as form, or as composite. Only the form as the element in the thing which is that thing's necessary and unchangeable Being, in contrast (in the physical order) to the matter and the composite, is *what-IS-Being*. Thus though the four causes are looked upon as distinct causes there is already (p. 109) the suggestion in Book A that somehow they ultimately depend upon formal causality.

Being emerges as an equivocal by reference, whose primary instance is Entity, which in its turn is seen to be an equivocal by reference, with separate Entity as its primary instance.

In the examination of the nature of sensible Entity the primary instance is the form while matter and the composite are secondary instances. The form in sensible things is separate in notion. "Separate in notion" does not imply leaving

out anything knowable in that which is known; hence it does not connote abstraction in so far as abstraction connotes a leaving out. As separate from matter, form cannot be singular, for the singular always contains matter. Since it is the primary Entity of the sensible thing, and since no universal can be Entity, it does not connote universality. It is a "this" (*tode ti*) and the primary instance of a "this." The composite is also a "this" but only in a secondary sense.

Science deals with the form which is prior to the universal and the singular as the cause of both. The form is actually a "this" and universal only potentially. Hence science deals with form as act for this necessarily entails determination. The form of anything is most properly expressed by its ultimate difference.

Each separate Entity appears, then, as different from all the others. Each is a *what-IS-Being*. Where *what-IS-Being* is the same in singulars of the same species, matter is present as something essentially unknowable. Hence matter adds nothing to the *what-IS-Being* but accounts for numerical plurality and indefiniteness. Perfection is equated with finitude; act with form. Form means intelligible content, and matter of itself has no such content. Hence form includes all the intelligible content. Thus the primary Entity is form as act.

"The science of the highest causes of things, the science of Being *qua* Being, the science of Entity, the science of primary Entity, the science of form, the science of truth — all denote the same discipline" (p. 298).

Form as act is the Entity expressed in all sensible things. The Entity so expressed is primarily the Being of the separate Entities. Form as act is precisely the nature of the separate Entities. This nature appears by reference of final causality in all other things that are called "Being." Hence the science which studies separate Entities thereby studies the Being of all things. The Primary Philosophy is defined as the science which studies separate Entities and by that fact it treats all Beings as Being.

For Father Owens, each immobile Mover is a living Being, enjoying the highest and fullest type of life. Such a Mover is acting by its very Entity. Moreover such an Entity cannot be a universal, since for Aristotle this is always something potential. Such an Entity can in no way be dependent upon anything else for production or Being. There is a plurality of such immobile Movers.

Each is a form which is a "this." It is an individual as such, not as a singular of a species; rather as form it is of its own nature distinct from all other forms. It has to be individual and definite in its own nature; of itself it is of a different nature from every other separate form. It is therefore "not something common" (*Review*, p. 333). Moreover the reality of all the separate Movers "will be of the same level as the first" for "there is no reason in the Aristotelian argument for placing the first of these Movers on any higher level of Being than the others." All are "distinct only by the fact of being different forms" (pp. 333-334).

Two problems come to mind. The first concerns the reduction of efficient cause to formal cause. This reduction seems to be crucial for his thesis that "act was entirely limited to form" (*Mediaeval Studies*, p. 245). In treating of efficient causality he concludes that there is "an imperfection inherent in efficient causality. The act of the agent is in the product." This is of course true with respect to *transeunt* activity within the categories of action and passion. But on page 253 of the major study no consideration is given to those acts in which "the exercise is the ultimate thing (*e.g.* in sight the ultimate thing is seeing, and no other product besides this results from sight . . . where there is no product apart from the actuality, the actuality is present in the agents, *e.g.*, the act of seeing is in the seeing subject and that of contemplation is in the contemplating subject)". The question I should like to ask of the author is whether he intends to eliminate all efficient causality from such acts as knowing or willing? Is there no agent, *i.e.* no one who knows, no one who wills? Can we reduce the hearers to formal causality?

On page 221, which is concerned with chapter seven of Book Z, the discussion treats of physical change. Here the efficient cause of a thing is identical in *form* with the formal cause of that same thing, but different in matter. "Since the matter is unknowable," writes Father Owens, "the efficient cause must, for purposes of scientific knowledge, be reduced to the form. All that is scientifically knowable in the efficient cause is the form." If Aristotle's doctrine is to be regarded as a contemplation of things, it does not seem that the criterion of what is required for scientific knowledge is entirely adequate. Aristotle insists on the presence of efficient causality as *a fact* in the world of nature, as *a distinct occurrence* (italics mine), but the author concludes that Aristotle is satisfied with "its explanation in terms of form" (p. 221). If this is so it would seem that all one needs is Ockham's razor (which recent studies have shown to have been a principle of Aristotle himself) to eliminate efficient causality.

The second question concerns the separate form or rather forms. Each form is of its own nature distinct from all other forms. Of itself it is of a different nature from every other separate form. Moreover, all are on the same level; there is no first in the sense of one hierarchically above others. All are distinct only by the fact of being different forms. Such are the author's conclusions. Now if each separate form is of a different nature from every other separate form, without any ordered arrangement, there is here plurality rather than unity.

"Form" itself means difference and requires *"no other principle to account for its specific difference"* (p. 298; italics mine). This being so the following question seems to emerge from the discussion at this point. In what sense is Being a group of equivocals by reference in various ways to one and the same nature? For has not "the one and same nature" become "plurality" thereby precluding reference to one? Can one say that "this nature which it [Wisdom] studies in every case is the same — separate Entity"? (p. 295) For does not sameness vanish, leaving mere plurality with neither interdependence nor dependence on a first nature or form?

These questions should not obscure for us the fact that this study of the Aristotelian doctrine of Being reveals a combination of unusual scholarship and penetrating insight on the part of its author. His is an important book which every scholar will want to study.*

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* The following editorial notes might be added by way of clarification. On page ix, *ample* is printed as *amply;* p. 7, *in* is printed *it* in "Being it its own proper nature"; p. 27, *by* as *be* in "be indefatigable"; p. 36, *enters* as *enter*. On the last line of p. 56 a full stop is printed after "the *Metaphysics.*" On p. 119 *Is* is printed as *In;* p. 141 *proceeding* as *proceding;* p. 279 (within the text) *possibly* as *possible*. There is a puzzling use of the word *principle* in such expressions as *principle* 'Forms' (p. 126), *principle* Forms (p. 160), *principle* sense (p. 258), *principle* type (p. 185). Perhaps each instance is a misprint and should be *principal*. Words like *and* (p. 128), *the* (p. 172), *are* (p. 109) are reduplicated.

In the text from Book *Delta* quoted on pp. 58-59 *not all* seems intended in place of *also* in the following statement: "things that are one in species are also [not all?] one in number."

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GEORGE BERKELEY, 1685-1753

PART II

J. P. DE C. DAY

The Proof from the Impossibility of Abstracting the Existence of Common Things from their being Perceived.

9. Berkeley's first proof consists in the assertion that it is impossible to "abstract," or "prescind," the existence of common things from their being perceived. Their unperceived existence is therefore an Abstract Idea, which is impossible. Principle (1) is thus employed to prove principle (3).[61] The fullest statement of this argument is the following:

> PHILONOUS... But (to pass by all that hath been hitherto said, and reckon it for nothing, if you will have it so) I am content to put the whole upon this issue. If you can conceive it possible for any mixture or combination of qualities, or any sensible object whatever, to exist without the mind, then I will grant it actually to be so.
> HYLAS. If it comes to that, the point will soon be decided. What more easy than to conceive a tree or house existing by itself, independent of, and unperceived by any mind whatsoever? I do at this present time conceive them existing after that manner.
> PHILONOUS. How say you, Hylas, can you see a thing which is at the same time unseen?
> HYLAS. No, that were a contradiction.
> PHILONOUS. Is it not as great a contradiction to talk of *conceiving* a thing which is *unconceived*?
> HYLAS. It is.
> PHILONOUS. The tree or house therefore which you think of, is conceived by you.
> HYLAS. How should it be otherwise?
> PHILONOUS. And what is conceived, is surely in the mind.
> HYLAS. Without question, that which is conceived is in the mind.
> PHILONOUS. How then came you to say, you conceived a house or tree existing independent and out of all minds whatsoever?
> HYLAS. That was I own an oversight; but stay, let me consider what led me into it. — It is a pleasant mistake enough. As I was thinking of a tree in a solitary place, where no one was present to see it, methought that was to conceive a tree as existing unperceived or

[61] See Section 3, Part I of this study.

> unthought of, not considering that I myself conceived it all the while. But now I plainly see that all I can do is to frame ideas in my own mind. I may indeed conceive in my own thoughts the idea of a tree, or a house, or a mountain, but that is all. And this is far from proving, that I can conceive them *existing out of the minds of all Spirits.*
> PHILONOUS. You acknowledge then that you cannot possibly conceive, how any one corporeal sensible thing should exist otherwise than in a mind ? [62]

In disproof of the materialist principle, that common things exist unperceived, and in defence of the New Principle, Philonous (Berkeley) here objects that it is inconceivable that a common thing should do so. Hylas (the materialist) replies that, on the contrary, we can and do think of, *e.g.*, a tree standing alone as opposed to a tree being perceived by an observer. But Philonous counter-objects to this reply that it contains a contradiction, since it asserts that we can think of something which is not thought of.

I have two criticisms of this argument, of which the second is much the more important. First, it contains a fairly obvious equivocation on "think of," or "conceive." The term is ambiguous as between "think of" meaning "perceive" and "think of" meaning "imagine." All that Hylas in fact asserts is that we can readily think of (meaning, imagine) a tree standing alone but unthought of (meaning, unperceived): which contains no contradiction. Berkeley's objection therefore falls.

Second, Berkeley's argument is an *ignoratio elenchi*, due to his mistaking the meaning of the materialist principle. What this really asserts is that we can quite correctly say "There is a tree in the Quad, although it is not being perceived by anyone," [63] for the reason that a certain logical relation (namely,

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[62] *First Dialogue, Works,* Vol. II, p. 200. *Cp. Principles,* Sections 5 and 6, *Works,* Vol. II, pp. 42-3.

[63] Or, as Berkeley himself and many other philosophers would put it, we can say this without "contradiction." The reasoning behind putting it thus is presumably this: We cannot correctly say (1) "My desk is brown and my desk is not brown," or (let us suppose) (2) "My desk exists although no-one is perceiving it"; now (1) is properly called a "contradiction"; therefore (2) is properly called a "contradiction" too. Which, however, commits the fallacy of the undistributed middle. See J. L. Austin, *op. cit.*, p. 123, note 22.

logical independence) holds between the two components of this conjunction. Berkeley attempts to disprove the assertion that this *logical* relation holds between these two *statements* by an argument that will at best prove that a certain *factual* relation (namely, invariable association, or factual dependence) holds between a certain *thing* (namely, a mental image of the tree) and one of its *properties* (namely, that its content is not the tree alone, but also includes an observer perceiving the tree).

The causes of Berkeley's mistake are, I suggest, plain: equivocations on the words "inconceivable" and "independent." As to the first, "inconceivable" means, on the one hand, "unimaginable," *i.e.*, "psychologically impossible to imagine." On the other hand, it means "self-contradictory," *i.e.*, "logically impossible." Confusion of the two concepts is facilitated by the fact that they are related. Logical impossibilities are psychological impossibilities (*e.g.*, we cannot imagine a round square). But the converse is not true; we cannot imagine a regular chiliagon, yet the concept contains no contradiction.[64]

As to the second, it has been seen that two common formulations of the materialist principle are "common things exist without the mind" and "common things exist independently of being perceived" or "independently of mind." Now, "independent" means, on the one hand, "factually or causally independent." In this sense I say, *e.g.*, "Contrary to Jevons' conjecture, the fluctuations of trade-cycles are independent of the presence and absence of sun-spots." On the other hand, it means "logically independent." The materialist principle is in fact about the second relation, whereas Berkeley misinterprets it as being about the first.

I suggest further that, lying behind and responsible for this confusion over "independent" lies a more fundamental confusion; namely, a mistaking of what is really a metalinguistic statement for a statement in the object-language. Berkeley

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[64] *Cp.* the last of the arguments by which Berkeley tries to prove that the existence of material substances is impossible, at Section 5, Part I of this study.

does not here appreciate that the materialist principle really states a relation between the two *statements* "There is a tree in the Quad" and "No one is perceiving a tree in the Quad." He supposes it to state a relation between a *thing* (namely, a mental image of a tree in the Quad) and one of its *properties* (namely, that its content is not the tree alone, but also includes an observer perceiving the tree). The same radical confusion is responsible for his misinterpretation of the phrase "without the mind," which, it has been observed,[65] he also took in a literal, physical sense.

But, in justice to Berkeley, it must be added that he is not always unaware of the distinctions just drawn. On the contrary, his third proof, as will appear, is essentially logical and not psychological in character. This criticism is valid, therefore, only for this first argument. And even here, he seems to waver between the psychological and the logical interpretations, as witness Philonous' use of the word "contradiction"; for it is evident that contradiction is a relation that holds only between statements, and never between properties of things, or events. Finally, it will also be seen below that in his general discussion of Abstract Ideas [66] Berkeley reveals the same inconsistency, sometimes rightly interpreting the Abstract Ideas thesis logically, and opposing it on the correct ground that we cannot properly say, *e.g.*, "My desk is coloured but is neither brown nor black nor any particular colour"; but more often interpreting it psychologically, and opposing it on the ground that the feat of abstracting a general Idea (*i.e.*, *a* general image) of colour in general from our particular images (*i.e.* images of this brown, that black, *etc.*), and hence of imagining a desk that is coloured but of no particular colour, exceeds our mental powers. The tendency to confuse the logical with the psychological is a trait that is particularly noticeable in, but by no means confined to, all the so-called British Empiricists.

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[65] Section 3, Part I of this study.

[66] *Introduction to the Principles*, Sections 6-10, *Works*, Vol. II, pp. 27 ff.

The Argument from the Meaning of Existential Statements about Sensations and from Phenomenalism.

10. This is the most complex of Berkeley's three arguments. Consideration of it will involve discussion of his phenomenalism and of his theory of Ideas, both important features of his philosophy. It will be best first to let Berkeley state the argument in his own words:

> It is indeed an opinion strangely prevailing amongst men, that houses, mountains, rivers, and in a word all sensible objects have an existence natural or real, distinct from their being perceived by the understanding. But with how great an assurance and acquiescence soever this principle may be entertained in the world; yet whoever shall find in his heart to call it in question, may, if I mistake not, perceive it to involve a manifest contradiction. For what are the forementioned objects but the things we perceive by sense, and what do we perceive besides our own ideas or sensations; and is it not plainly repugnant that any one of these or any combination of them should exist unperceived?[67]

A suppressed premiss in this passage is the assertion that common things ("sensible objects") are collections of sensations. Berkeley states this explicitly thus:

> And as several of these [*sc.* sensations] are observed to accompany each other, they come to be marked by one name, and so to be reputed as one thing. Thus, for example, a certain colour, taste, smell, figure and consistence having been observed to go together, are accounted one distinct thing, signified by the name *apple*. Other collections of ideas constitute a stone, a tree, a book, and the like sensible things.[68]

The argument runs, then:

(1) The ground of the existence of all sensations is being perceived

(2) All common things are sensations

Therefore, (3) The ground of the existence of all common things is being perceived

11. Statement (1) is true and important, though its wording is, in a significant respect, defective. The truth which it states is this: we cannot correctly say either "Such-and-

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[67] *Principles*, Section 4, *Works*, Vol. II, p. 42.

[68] *Principles*, Section 1, *Works*, II, p. 41.

such a sensation exists although no-one is having it" or "Someone is having such-and-such a sensation, but it does not exist." The defect in its wording is that Berkeley speaks of "perceiving" sensations rather than of "having" them. This is incorrect, because we do not (say that we) perceive, see, or touch sensations; what we (say that we) perceive, see or touch are things, persons and events. The importance of this distinction will appear shortly. It will suffice for the present to notice that Berkeley does not draw any distinction between perceiving on the one hand and having sensations on the other. He follows ordinary usage in using "perceive" as a generic term for "see," "hear," "touch," "taste," and "smell"; but he habitually says that we see, or hear, or perceive, on the one hand, rocks and stones and trees, and, on the other, sensations or "Ideas."

As for statement (2), before examining its truth, it is first necessary to establish its meaning. I suggest that here again there is confusion between object-language and meta-language. To make sense of it, the doctrine that common things are collections of sensations must be interpreted, not as a statement in the object-language of the same type as "Cairns are collection of stones," but as a metalinguistic statement to the effect that any *statement* about a common thing is logically related in a certain way to a *collection of statements* about *actual* sensations. I suggest further that the logical relation in question is again necessary equivalence, otherwise mutual entailment.[69] Thus reformulated, statement (2) is recognisable for what it is, namely Berkeley's phenomenalist principle, which differs from the more familiar types of phenomenalism in asserting that the ground of any statement about a common thing consists of a set of statements about actual sensations only, not possible ones.[69a] The falsity of this principle is easily

[69] Or perhaps material equivalence; but on the whole I incline to mutual entailment as the correct interpretation.

[69a] However, one important passage (*Principles*, Sections 38-9, *Works*, Vol. II, pp. 56-7) indicates that a different interpretation is appropriate; namely, that 'collection of Ideas' is Berkeley's *stipulated definition* of any common thing word such as 'bread' or 'hat':

shown. For it is quite proper to say either "There is a table next door although no-one is having such-and-such a sensation (say, a glimpse of a brown, square patch)," or "Someone is having such-and-such a sensation (say, a glimpse of a brown, square patch), but in fact there is no table next door." (The kind of circumstances in which this second statement might be made would be when we know, say, that the room next door which someone has just entered is dimly lit and contains a large crate which looks very much like a table.) The first point is not likely to be challenged, but the second may be. And this relative plausibility of the second statement is due, I think, to its being confused with the different statement: "Someone is perceiving a table next door, but in fact there is no table there." This, indeed, cannot be said, for the reason that "perceive," "hear," "smell," *etc.* connote the existence of the thing which is claimed to be perceived; as witness the way in which X (the "someone" of my example) withdraws his claim to have perceived the table next door when we have convinced him that, in fact, there was no table there. He says: "Well, I *thought* I saw it; but it seems I was mistaken." But "having such-and-such a sensation," on the other hand, has no such connotation.[70]

This objection to Berkeley's phenomenalism can be reinforced by another which turns on the identity of common things.[71] One of the most important features of our notion

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> Since, therefore, the objects of sense of [*sc.*, common things] exist only in the mind, and are without thoughtless and inactive, I chose to mark them by the word *idea*, which implies those properties.

But this is a classic example of a question-begging definition, since the reason that Berkeley gives for stipulating it in the antecedent of the sentence quoted is the very conclusion that he is trying to prove; namely, the New Principle. It therefore seems both more plausible and more charitable to adhere to the alternative interpretation, that what Berkerley on the whole intends is to assert the existence of what I have called a necessary equivalence.

[70] See G. Ryle, *The Concept of Mind*, London, 1949, chap. 7, "Sensation and Observation."

[71] It is made by J. S. Mill in his essay, "Berkeley's Life and Works," *Fortnightly Review*, Vol. X, New Series, London, November, 1871.

of common things is that they continue to exist, and retain their identity, although our perception of them is discontinuous and interrupted. When I see my desk again this morning, not having seen it since last night, I say, of course, that it is still the same desk. But the conjunction of this familiar truth with Berkeley's phenomenalist principle can be shown to entail a false conclusion, thus:

(4) The desk that I see this morning is the same thing as the desk that I saw last night,

(2) Any statement about my desk entails and is entailed by a set of statements about actual sensations.

Therefore, (5) The sensation that I have on seeing my desk this morning is the same as the sensation that I had on seeing it last night.

Now, (5) is false. For, subject to a qualification to be noticed directly, we do not say that the sensation that I have on seeing my desk again this morning is the same thing as the sensation that I had on seeing it last night. But the argument is valid. Hence, at least one of the premisses must be false. (4), however, is true; so that (2) must be false.

It is interesting to consider the presumable causes of Berkeley's failure to see this disproof of his phenomenalist principle. Mill plausibly suggests that the falsity of (5) tends to be concealed by a familiar ambiguity in the word "same"; namely, between "same" meaning "numerically identical," and "same" meaning "qualitatively similar." For we do, of course, say colloquially that the sensation that I have when seeing my desk this morning is the same as (meaning, is qualitatively like) the sensation that I had when seeing it last night. But the sense of "same" in which my desk is said in premiss (4) to be "the same thing" is numerical identity; consequently, the conclusion to which Berkeley is committed by (4) and (2) is that the sensations are numerically identical, not merely similar; but this is just what they are not (normally said to be). Mill's suggestion is reinforced by an observation of Hume's, that sometimes at least we tend to regard the sensations as being numerically identical, even though we should concede, if chal-

lenged, that strictly speaking they are qualitatively similar only:

> When we have been accustomed to observe a constancy in certain impressions, and have found that the perception of the sun or ocean, for instance, returns upon us, after an absence or annihilation, with like parts and in a like order as at its first appearance, we are not apt to regard these interrupted perceptions as different (which they really are), but on the contrary consider them as individually the same, upon account of their resemblance.[72]

12. Since, then, phenomenalism formulated in terms of actual sensations will not do, it seems an obvious resource to try to save Berkeley's argument by restating principle (2) in the form: Any statement about a common thing entails and is entailed by a set of statements about *possible* sensations. This is the more familiar version of phenomenalism, to the refutation of which philosophers have devoted a good deal of effort in recent years. [73] The strongest arguments that its critics have

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[72] *Treatise*, Book I, Part IV, Section II. I think that Hume's observation is true mainly and perhaps exclusively of cases where the interruptions are brief, as when I have my desk in view, momentarily look away, and then have it in view again.

[73] Possible sensations naturally include actual as a special case. The classic formulation of this version of phenomenalism is generally considered to be J. S. Mill's statement: "Matter, then, may be defined, a Permanent Possibility of Sensation." (*Examination of Sir William Hamilton's Philosophy*, chap. XI). But, as a formulation of phenomenalism, this celebrated statement is open to a number of criticisms. First, it is too narrow: Mill confines it to material common things ("Matter"), whereas phenomenalists in fact assert it of all common things, including immaterial common things and persons. (It is to be noticed, in this connexion, that Berkeley does not assert his phenomenalist doctrine of persons.) Second, Mill is supplying, not (as he claims) a definition, but a ground. (*Cp.* Section 8.) Third, he is really stating the ground, not of common thinghood (as he pretends), but of *existence* as asserted of common things. For he confuses two different questions: (1) When do we say of a thing that it is a common thing? (2) When do we say of a common thing that it exists? "When anyone would, under certain conditions, have certain sensations" is an answer (though, as I shall argue shortly, a wrong answer) to (2). But "When it is permanent" is a part (though not the whole) of the answer to (1). Hence, what Mill really intends, I think, is not: "The definition of 'material thing' is 'Permanent Possibility of Sensation'"; but "The ground of the existence of common things is the possible existence of certain sensations"; or, in other

brought against it have been, in my estimation, the two that follow.

First, the short and easy method with phenomenalists is to remark that their theory involves an impossibility, since we have no terminology for discussing sensations, our language being designed for talking about common things only; the most striking evidence of which is, that the only way we can talk about sensations at all is by assimilating them to common things, *e.g.*, "I saw stars." [74] However, it may be replied to this objection that it proves nothing beyond the inadequacy of our languages, which need only to be supplemented by a suitable sensation-vocabulary for the objection to fall.[75]

The second objection is this. Phenomenalism is indeed, as many have felt it to be, a paradoxical theory. The paradox consists in its claim that certain indicative (or categorical) statements, namely those about common things, mean the same thing as sets of conditional (or hypothetical) statements. Which cannot be, since, to put it simply, indicative statements mean one thing and conditional statements mean another. Hence, *e.g.*, "There is a table next door" cannot mean the same thing as "If anyone were to have a certain kinaesthetic sensation (go next door) he would then have a certain visual sensation (a glimpse of a brown, square patch)." [76] However, I think that the reply to this objection is that, though what it

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words, "A common thing (we say) exists when, and only when, anyone would under certain conditions have certain sensations." And this is indeed the usual phenomenalist account of *existential* statements about common things, which however is a special case of the general phenomenalist principle, which covers *all* statements about common things, including conditionals. Consequently, Mill's formulation, even when cleared of confusion, still does not state the phenomenalist principle in its general and correct form. *Cp.* J. Mackaye, *The Logic of Language*, Hanover, New Hampshire, 1939, chap. VII, "The Nature of Existence," pp. 251ff.

[74] Ryle, *op. cit.*, p. 235.

[75] I would add that I doubt whether this reply will do, since the notion of a sensation-language is full of difficulties, which, however, I cannot detail here.

[76] *Cp.* I. Berlin, "Empirical Propositions and Hypothetical Statements," *Mind*, Vol. *LIX*, 1950.

says is quite true, it is beside the point, since it misrepresents the phenomenalist thesis. For what does it mean to say that the above indicative statement does not "mean the same thing" as the above conditional statement? Presumably this, that they cannot be substituted for one another in a context without (much) alteration of sense. And this is certainly true: *e.g.*, the question "What is there next door?" is appropriately answered by "There is a table next door," but not by "If anyone were to have a certain sensation he would then have a certain other sensation"; so that the second is not a permissible substitute for the first. However, I submit that phenomenalists do not in fact maintain that the two statements "mean the same thing" in this sense, but that what they do maintain is that they entail each other.[77] It must be admitted, indeed, that it is impossible to produce conclusive evidence for this interpretation, since phenomenalists tend to describe the relation between the two sorts of statements by such phrases as "reducible to" and "logically constructed out of" — expressions which are technical without being precise. It appears, then, that the proponent of this objection makes the same kind of mistake as one who should suppose that Berkeley's "the *esse* of common things is *percipi*" asserts that, in the context of discourse about common things, "perceived" and "real" are mutually intersubstitutible without (much) alteration of sense, otherwise, are alternative names for the same property.

I am suggesting, then, that any conclusive objection to phenomenalism must interpret the theory as asserting that the ground of any statement about a common thing is a set of

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[77] Or at least are materially equivalent. An alternative interpretation is that statements about common things entail (or at least materially imply) conditional statements about sensations, but are not entailed (or materially implied), but rather confirmed, by the latter. This interpretation is proof against the objection that I am about to make against the mutual entailment interpretation, but is open to the no less fatal one, that it involves the paradoxical consequence that a statement about a common thing, *e.g.*, "There is a table next door" can never be said to be true, but can only be said to be probable. In any case, I think that it is the less plausible interpretation, since it seems to be fundamental to phenomenalism that the two sorts of statement are in some sense "equivalent."

conditional statements about possible sensations. Nor is such an objection difficult to produce. But before stating it, it will be well to notice the truth that the theory contains. What is true is that, *e.g.*, "There is a table next door" entails "In certain conditions, anyone would experience certain sensations"; for it entails "In certain conditions, anyone would perceive a table," which in turn entails "In certain conditions, anyone would experience certain sensations." What is not true, however, is that the entailment holds in the other direction. For it is quite permissible to say: "If anyone were to have a certain kinaesthetic sensation (go next door) then he would have a certain visual sensation (a glimpse of a brown square patch), even though there is in fact no table there." The kind of circumstances in which we might say this would be the same as those described above in examining Berkeley's formulation of phenomenalism in terms of actual sensations. And again, the source of such plausibility as the thesis possesses derives, I suggest, from the same source; namely, confusing the statement "If anyone were to have a certain kinaesthetic sensation he would also have a certain visual sensation," which connotes nothing as to the existence of a table next door, with the statement "If anyone were to go next door he would see a table," which certainly does connote the existence of a table next door in the same way as and for the same reason that the corresponding indicative "Someone is seeing a table next door" connotes that there is one there; namely, that we cannot say "If anyone were to go next door he would see a table although there is no table there." In short, I am contending that the essential objection to the formulation of phenomenalism in terms of possible sensations is the same as that to its formulation in terms of actual sensations; namely, that both fail through incorrectly supposing a relation of mutual entailment (or at least material equivalence) to hold between statements about the occurrence of sensations and statements about common things; and that the difference between the two formulations, that the ground in the one case is an indicative statement and in the other a conditional statement, is unimportant. From all of which I conclude, first,

that Berkeley's phenomenalist principle, premiss (2) in this second argument, is false, so that the argument fails to prove the truth of his New Principle; and second, that his argument cannot be saved by substituting for his premiss (2) the more familiar formulation of phenomenalism in terms of possible rather than of actual sensations. So much, then, for Berkeley's second proof of his New Principle and, incidentally, for phenomenalism.

13. It is pertinent next to enquire into the reasons why Berkeley was a phenomenalist. There seem to have been three. First, he thinks it in order to speak of "sensing" a common thing as opposed to perceiving or, more generally, observing it, and hence that common things are proper grammatical objects of the verb "to sense" and that they are correctly described as "sensible objects." [78] On the other hand, he simultaneously holds the more usual belief that the only things which we sense, and which are proper grammatical objects of the verb "to sense," are sensations; *i.e.*, that all "sensible objects" are sensations. But these two tenets together commit him to phenomenalism; for if all sensible objects are sensations and all common things are sensible objects, then all common things must be sensations, specifically, "collections" thereof. The objection to this is, however, that the second premiss is false. For we do not say that we "sense" or "experience" or "have" common things; the only proper object of these verbs is "sensation." The cause of this error is Berkeley's failure to distinguish the concept of sensation from that of observation, which leads him to suppose that, because we can correctly speak of observing common things, we can therefore correctly speak of sensing them.[79]

Second, Berkeley believes on the one hand that all perceived things are sensations, and on the other that all common things are perceived things, which two beliefs again necessarily commit him to the conclusion that all common things are sensations, specifically, collections thereof. A clear state-

[78] Berkeley frequently uses this expression, or alternatively "sensible thing." See, *e.g.*, *Principles*, Sections 3 and 4, *Works*, Vol. II, p. 42.

[79] *Cp.* Section 11.

ment of the first belief is contained in a well-known passage towards the end of the *Third Dialogue*, where Berkeley tells us that he accepts the "truth of the philosophers", that:

> *the things immediately perceived are ideas which exist only in the mind.*[80]

In criticism, the second belief is true but the first is false. For, as regards the second, it is true that what we (say that we) perceive are common things, such as trees and smells. But, for the same reason, the first is false, for we do not (say that we) perceive sensations; we (say that we) see a tree, not a glimpse of a tree, and hear a noise, not a sound of a noise.[81] The "truth" to which Berkeley refers ,which is in fact no truth, is the famous and fatal "New Way of Ideas" expounded by Descartes, Malebranche and Locke, (and held by many thinkers before them), who are doubtless the "philosophers" from whom Berkeley derived it. And if room must be found in a discussion of Berkeley's theory of knowledge for the name "idealism," then this is the tenet to which it seems most appropriate; however, in this sense, as I have said, Descartes and Locke are idealists too.[82] Yet there are two important differences between Berkeley's idealism and, notably, Locke's, touching the relation of Ideas to things, and the reality of Ideas and things, respectively. In Locke's account, Ideas (of sensation) are related to things (material substances) as effects to their efficient causes and, in the case of Ideas of Primary Qualities, as like to like. Hence, Ideas and things are two nu-

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[80] *Works*, Vol. II, p. 262.

[81] *Cp.* Ryle, *op. cit.* In justice, it must be added that Berkeley himself points this out more than once: *e.g.*, 'In common talk, the objects of our senses are not termed *ideas* but *things*'. (*Third Dialogue*, *Work*, Vol. II, p. 251).

[82] Those who, like Professor Moore (*op. cit.*), apply the names "idealism" to Berkeley's metaphysic and "realism" to his opponents', use them as synonyms for what Berkeley himself calls respectively "immaterialism" and "materialism"; *i.e.*, for the theses, "No 'unthinking things' (*i.e.* things other than minds) exist unperceived," and "Some 'unthinking things' (namely, according to the philosophers, material substances, or alternatively, according to the vulgar, common things) exist unperceived." It seems best to keep to Berkeley's own usage.

merically distinct sorts of things. Further, Locke holds that the ground of reality is unperceived existence, and hence that things are (in this sense) real and Ideas unreal. For Berkeley, on the other hand, Ideas (of sense) are related to things as components to a "collection"; but this must be interpreted to mean, as has been seen, that statements about Ideas entail and are entailed by statements about things. Hence, Ideas and things are not two numerically distinct sorts of thing; apart from spirits, there exists only one sort of thing, namely Ideas; and the common thing language of everyday life is just one way of talking about this sort of thing. Further, as has been seen, Berkeley holds that, for all Ideas (as opposed to minds), the ground of "reality" is being perceived (as opposed to being remembered or imagined); so that Ideas of sense, which Berkeley declares to be the only things that we perceive, must be (in this sense) real. Accordingly, he writes in the same passage that he accepts, as well as the "truth of the philosophers," the "truth of the vulgar," that:

> *those things they immediately perceive are the real things.*[83]

It is pertinent to ask, however, whether this statement really does express the opinion of the vulgar. I submit that in fact it does not, but that it appears to do so on account of the ambiguity of the phrase "the things we perceive." Berkeley, to repeat it, understands by this Ideas of sense, or sensations. But we vulgar understand by it, not sensations, but common things. Berkeley, therefore, understands by this statement: "All sensations are real things and conversely." However, we cannot accept this converse: we say, *e.g.*, that the Taj Mahal is a real thing, yet it is not a sensation. We vulgar, on the other hand, understand by this statement: "All perceived common things are real things and conversely." And this interpretation is much more nearly a true account of our belief; though still not strictly acceptable, since the converse again will not do: we say, *e.g.*, that the mountains on the far side of the moon are real, yet we do not perceive them. It will be necessary to consider this point further below. What I wish

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[83] *Works*, Vol. II, p. 262.

to emphasise at present is that one important reason for Berkeley's phenomenalism is what I have called his idealism.

Third, Berkeley maintains on the one hand that all Sensible Qualities are Ideas of sense and conversely, and on the other that all common things are collections of Sensible Qualities; and these two theses again entail that common things are collections of sensations. Consider, *e.g.*:

> ... the sensible qualities are colour, figure, motion, smell, taste, and such like, that is, the ideas perceived by sense,[84]

and

> ... the several combinations of sensible qualities, which are called *things* ...[85]

I have previously commented in passing on the falsity and paradoxical character of the first thesis.[86] For it is not even true that we perceive qualities, still less that we sense them. Berkeley, however, thinks otherwise:

> By touch I perceive, for example, hard and soft, heat and cold, motion and resistance ...[87]

Yet it is surely plain that we never say any of these things: we say (*e.g.* on touching a piece of ice in the dark) "I feel *something* hard and cold and firm," not "I feel hard and cold and firm." Nouns, not adjectives, are the proper grammatical objects of verbs of perception.[88] *A fortiori*, we do not (say that we) "sense," or experience, or have hard, firm *etc.*; so that it must be concluded that the very phrase, "Sensible Quality," is an impermissible one. Berkeley doubtless took it from Locke: but it is worth remarking that the two philosophers mean something quite different by it. Locke understands by it:

> ... the power that is in any body, by reason of its insensible primary qualities, to operate after a peculiar manner on any of our senses, and

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[84] *Principles*, Section 7, *Works*, Vol. II, pp. 43-4. *Cp. ibid.*, Sect. 78, *ibid.*, p. 74.

[85] *Ibid.*, Section 38, *Ibid.*, p. 56.

[86] See Section 5, above.

[87] *Principles*, Section 1, *Works*, Vol. II, p. 41.

[88] Of course, we do say "I feel cold" and "I saw red"; but with quite different meanings.

> thereby produce in *us* the different ideas of several colours, sounds, smells, tastes, etc.[89] (*i.e.* of Secondary Qualities).

But Berkeley understands by the Sensible Qualities of a thing, not powers, but all its actual qualities, both Primary and Secondary. Perhaps he thinks of these qualities, or properties, as a kind of thing, which adjectives stands for as nouns do for other sorts of things, which is why and how we can (be said to) perceive or sense them.

The Argument from the Meaning of Existential Statements about Common Things.

14. This is the briefest and best of Berkeley's three arguments. Consider the following passages:

> It is very obvious, upon the least inquiry into our own thoughts, to know whether it be possible for us to understand what is meant, by the *absolute existence of sensible objects in themselves, or without the mind.* To me it is evident these words mark out either a direct contradiction, or else nothing at all. And to convince others of this, I know no readier or fairer way than to entreat they would calmly attend to their own thoughts: and if by this attention, the emptiness or repugnancy of those expressions does appear, surely nothing more is requisite for their conviction. It is on this therefore that I insist, to wit, that the absolute existence of unthinking things are words without a meaning, or which include a contradiction. This is what I repeat and inculcate, and earnestly recommend to the attentive thoughts of the reader.[90]

> That neither our thoughts, nor passions, nor ideas formed by the imagination, exist without the mind, is what everybody will allow. And it seems no less evident that the various sensations or ideas imprinted on the sense, however blended or combined together (that is, whatever objects they compose) cannot exist otherwise than in a mind perceiving them. I think an intuitive knowledge may be obtained of this, by any one that shall attend to what is meant by the term *exist* when applied to sensible things.[91]

> That a thing should be really perceived by my senses, and at the same time not really exist, is to me a plain contradiction.[92]

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[89] *Essay Concerning Human Understanding,* Book II, Chap. 8, Section 23.

[90] *Principles,* Section 24, *Works,* Vol. II, p. 51.

[91] *Principles,* Section 3, *Works,* Vol. II, p. 42.

[92] *Third Dialogue, Works,* Vol. II, p. 230.

In the first passage, Berkeley asserts that the reason for the falsity of the vulgar materialists' principle, that common things exist independently of mind, is that it involves a "contradiction." In the second, he claims that the reason for this contradiction is the meaning of "exists" when applied to common things, and also that there is one contradiction in saying that a common thing exists but is not perceived; so that saying that a common thing exists entails saying that it is perceived. In the third passage, he adds that there is another contradiction in saying of a common thing that it is perceived but does not exist; so that saying that a common thing is perceived entails saying that it exists. These passages, then, provide the justification of the interpretation of the New Principle offered above [93], namely that what Berkeley means when he says that the *esse* of common things is *percipi* is that, for all common things, the functions "x exists" and "x is perceived" mutually entail each other by virtue of the meanings of "exist" and "perceive" as applied to common things.

This third argument is related to the first argument in this way: it is what the first argument becomes when the concept of logical dependence/independence is substituted for that of factual or causal dependence/independence. Its resemblances to, and differences from, the second argument are these: First, this genuinely is a different argument from the second, although it may not at first sight appear to be so. The reason for this misleading appearance is the ambiguity, previously noticed [94], in the phrases "sensible object" and "sensible thing," by which Berkeley sometimes means "sensation" and sometimes "common thing." But it is clear from the context of the passages just quoted that Berkeley here means by them common things and not sensations. Second, in both arguments Berkeley attempts to establish the New Principle by an appeal to logical connexions; but whereas one premiss of the second argument is "For all *sensations* 'x exists' entails and is entailed by 'x *is had*' " the corresponding premiss of

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[93] See Section 8.

[94] See Section 13.

the third argument is "For all *common things*, 'x exists' entails and is entailed by "x is *perceived*.'" Hence, third, the second argument needs an additional premiss, namely, Berkeley's phenomenalist principle, in order to prove the New Principle, whereas the third needs no additional premiss. And this is an important result, since it shows that Berkeley's New Principle does not necessarily presuppose his phenomenalism.

15. By way of comment and criticism, I wish first to point out the relation of Berkeley's New Principle to his account of reality, previously mentioned.[95] It will be recalled that the latter asserts that, for all "unthinking things" (*i.e. Ideas*), "x is real" entails and is entailed by "x is perceived." In other words, the distinction between the unreal (or chimerical) and the real corresponds to the distinction between unperceived unthinking things (*i.e.* Ideas of memory and imagination, or private images) and perceived unthinking things (*i.e.* Ideas of sense, and hence "sensible things" or "common things"). In his New Principle, Berkeley asserts that, for all common things (*i.e.* collections of *Ideas of sense*), "x is real" entails and is entailed by "x is perceived." Hence, Berkeley's New Principle is a special case of his doctrine of reality. The latter entails the former; and hence further, if the former is false (as I shall show that it is), then the latter is false also.

Berkeley's third argument has been objected to on the ground that in it he confuses the question of the *cause* of the existence of common things with the question of the *meaning* of statements asserting the existence of common things.[96] It has been seen that Berkeley regards minds as the causes of Ideas, and hence of the existence of common things, which are collections of Ideas of sense. It has now been seen also, from his third argument, that Berkeley holds as well that there is a connexion of meaning between any existential statement about a common thing and a statement about that thing's being perceived by a mind. Berkeley, then, believes that common

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[95] See Section 7.

[96] See Mackaye, *op.cit.*, pp. 246-7.

things are "mind-dependent" in two senses: first, causally; and second, logically.[97] I am not myself confident that this charge is true, since Berkeley seems to me to be quite aware of the distinction. However, if there is anything in it, it suggests a reflection of passing interest on the origin of the New Principle. Did Berkeley perhaps start from the belief that mind is the sole cause of Ideas, and hence of the existence of common things, and then, as a result of confusing causal with logical dependence, arrive at his New Principle?[98]

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[97] See Section 7, end, above.

[98] In his article, "The Place of God in Berkeley's Philosophy," *Philosophy*, Vol. VI, London, 1931, Mr. J. D. Mabbott has propounded a radical reinterpretation of Berkeley's system which, I believe, turns on this point.

Mr. Mabbott contends that Berkeley's real views are as follows: First, the *esse* of minds is not *percipere*, which Berkeley regards as a passivity, but *agere* and *velle*, which are manifested in the production or efficient causation of Ideas. Second, the *esse* of common things is not *percipi*, but being produced by Infinite Mind. It is necessary to distinguish two cases of this: (a) When a common thing is perceived by a man, its *esse* consists in its component Ideas being actually produced in a finite mind by Infinite Mind. (b) When a common thing is not perceived by a man, its *esse* consists in its component Ideas being potentially produced in a finite mind by Infinite Mind, in this sense, that God has a permanent intention of actually producing the Ideas in a finite mind on the proper occasion — namely, if and when a man perceives it. Third, God's sensations (Ideas of sense) are therefore unnecessary to Berkeley's system. For they are necessary only if the *esse* of common things is held to be *percipi*, since without them it would be necessarily false to say "There is a tree in the Quad although no man is perceiving it." Berkeley's only reason for mentioning them at all is tactical. The reader is more likely to swallow the doctrine that this statement about the tree is true because God perceives it when no man does, than the doctrine that it is true because God intends to produce a sensation of it if and when a man happens along.

But it is surely paradoxical to deny that Berkeley holds that the *esse* of minds is *percipere* and the *esse* of common things is *percipi*, seeing that he so often and explicitly states these doctrines, especially the second. But if it is admitted, as I think it must be, that Berkeley holds that the *esse* of common things is *percipi*, then God's sensations are indeed essential to Berkeley's system, since there is no other way (except invoking the Devil, angels or demons) of saving this statement about the tree from being necessarily false. Finally, (and this is the point I wish to emphasize), I suspect that at the root of Mr. Mabbott's argument lies the assumption that the two senses in which Ideas, and hence common things, are "mind-dependent" are incompatible. That is, if it is true that their existence depends on being efficiently *caused* by a mind, it cannot also be true that we can

Finally, the true objections to Berkeley's New Principle and his third proof thereof seem to me to be these. The New Principle asserts that a common thing is properly said to exist when, and only when, some spirit actually perceives it. *E.g.*, "There is a table next door" entails and is entailed by "Some spirit is perceiving a table next door." The merit of this theory is that it is compatible with vulgar materialism (or common sense realism), which is a true doctrine. For, as I have argued above, vulgar materialism asserts — what is true — that we can and do say "There is a table next door although no finite spirit (*i.e.* man) is perceiving it"; and evidently, "There is a table next door if, and only if, some spirit is perceiving it" is compatible with "There is a table next door although no finite spirit is perceiving it." Contrary to what Berkeley supposes, therefore, there is no issue between him and common sense realism.[99] The demerit of the theory, on the other hand, is this. What is true is that "Some spirit is perceiving a table next door" entails "There is a table next door." But what is not true is that the entailment holds in the other direction also, as the third argument pretends. For there is no "contradiction" or "repugnance" in saying "There is a table next door although no spirit is perceiving it."

In this connexion, it is necessary to distinguish between asserting that "There is a table next door even when no spirit is perceiving it" is an impossible expression, and asserting that it is always in fact false. For it may be thought that what Berkeley asserts in his third proof is not the former but the latter, his reason being that God always in fact keeps an eye on the table when no man is by. However, although Berkeley certainly believes the latter, this cannot be what he is asserting in his third proof, since this statement would not prove that "There is a table next door" *entails* "Some spirit is perceiving a table next door," but only that it *materially implies* it; whereas what the New Principle and the third proof

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properly say that they exist when, and only when, they are *perceived* by a mind. But in fact the two theses are not incompatible; Berkeley's system needs them both; and this is the reason for the undoubted fact that he asserts them both. *Cp.* G. Dawes Hicks, *Berkeley*, London, 1932, chap. IV, Note.

[99] See Section 8, above.

assert is that it entails it. But in any case, Berkeley does not even succeed in proving that "There is a table next door even when no spirit is perceiving it" is always in fact false. For this belief is derived from his contention that there exists a God Who perceives common things at least at all times when no man is doing so; but this contention, as has been seen, Berkeley fails to make good.[100]

The correct statement of the New Principle, then, would seem to be: Common things (are properly said to) exist when, and only when, any normal human observer would under certain conditions perceive them; or, in other words, the ground of the existence of common things is the possibility of their perception by any normal human observer.[101] For in this formulation, the entailment does indeed hold in both directions, since we cannot correctly say either "In certain conditions any normal human observer would perceive a table next door although there is no table there," or "There is a table next door although it is not true that any normal human observer would, under certain conditions, perceive it." The conclusion is, therefore, that Berkeley's New Principle and his three proofs are incorrect, but that, in suggesting in a number of passages that being perceptible (rather than being perceived) is the ground of common things' existence, he provided the clue to the correct answer to his problem.

(To be concluded)

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ERRATUM

In Part I of this Critical Study, this *Review*, Vol. VI, No. 1, September 1952, page 93, line 3, for "their common sense" read "their common cause."

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[100] See Sections 6 and 7, above.

[101] Some have found a difficulty in the concept of a "normal observer," but I do not myself see that there is one. If, on a number of occasions, Tom, Dick and Harry, being under the same conditions, report that they hear a distant train, the wind rising, a car in the drive, *etc.*, whereas Bob, being under the same conditions, reports on each occasion that he hears none of these things, then it is concluded that his hearing is abnormal.

The Review of Metaphysics, Vol. VI, No. 2, December 1952.

Discussions

EXISTENCE, THE PAST, AND GOD

JOHN E. SMITH

Mr. Weiss has written an arresting paper[1] on one of the most perplexing problems in philosophy, the nature and status of the past. His essay has all of the precision and conciseness for which he is well known, and it is particularly instructive because it touches upon fundamental questions. There are, however, as is true of all provocative papers, questions and difficulties concerning his thesis which come to mind almost at once. I shall propose several in the course of this discussion, starting with some specific points first. Following these, I shall suggest what I take to be a major difficulty with Mr. Weiss' theory, one which is not so much concerned with details as with the main drift of his account.

I

There is an unfortunate contradiction introduced into the account of facts (509ff) when it is said, on the one hand, that the past, in differing from the present, is "inert, ineffective, finished, lacking substantiality and energy" (510), and, on the other, that a fact "will have many effects through the corridors of time" (510). It is difficult to see how, since we are told to regard the past as "a tissue of facts and nothing more" (513), the past can be ineffective and yet be a tissue of facts each of which will have "effects." Unless I have failed to grasp what Mr. Weiss has in mind, there is inconsistency here. It is due no doubt to his attempt to take account both of the undeniable fixity or finished character of the past, and of the future "repercussions" which its constituent facts are often said to have. Perhaps Mr. Weiss has lost sight of the past in its dynamic character because of his emphasis

[1] "The Past: Its Nature and Reality," *The Review of Metaphysics*, Vol. V, pp. 507-522.

(which I believe is correct in itself) on its sheer fixity. It is not beyond the nature of the past to be *re-presented, i.e.* to be in the present (not "present" but "in the" present) as a trace which is effective in present happening. This point is generally recognized when memory and imagination are introduced, but leaving these aside, the growth of organisms at any level shows that although the past is "behind" it is not "left behind" but is, in a sense, present. I do not see that Mr. Weiss has made nearly enough of this fact.

II

Mr. Weiss is unreservedly realistic about the past in the sense that he rejects any suggestion of a past fact's changing. Knowledge and interpretation may change, but the past never. "Nothing then," he says, "can change a fact in the slightest way; nothing can be added to it; nothing can be subtracted from it" (511). This reaffirms, of course, one of the most universal experiences concerning the past — whatever it is, it cannot be undone. Royce, it will be recalled, singled out this feature of the past above all others and called it its "irrevocability." I am in sympathy with his view at this point, but I have the suspicion that it leads to difficulties not easily overcome. If we ask what it means that the past does not change we can only point to its sheer factuality, since, on Mr. Weiss' view, our knowledge of the past does change whereas the past of which it is knowledge does not. But then it becomes necessary to distinguish our knowledge, and especially our interpretation, of the past so sharply from this factuality that all we can say of the past is that "it is" and "it" does not change. Yet, on the other hand, I am aware that if we allow knowledge and interpretation to be constitutive of the past we cannot escape the conclusion that the past changes, a conclusion which Mr. Weiss has given us good reason to regard as mistaken.

Another question arising in this connection is, can we, on such a view, make room for such human experiences as "forgiveness"; can we meaningfully speak of "making good" an evil past? On the face of it there would seem to be possible

only the one answer implied by Mr. Weiss' position; no. The past is past and as such is sheer fact without becoming. What then shall we make of a notion like that of atonement? Does this idea, if interpretable at all, point merely to a change taking place in some present or to take place in some future? Does it involve merely a change in knowledge, interpretation, consciousness, so that while it is admittedly a genuine change related to a determinate past, it is in no sense a change *in* the past?

It may be, of course, that these questions border so definitely on some issues in theology that their appearance in a strictly metaphysical discussion is not appropriate, and yet it can be replied that the righting of wrongs, forgiving, "bringing good out of evil," "making up" for an evil done, are widespread human experiences which the philosopher cannot ignore. Perhaps it is not necessary for a metaphysical theory of the past to provide a full-blown solution of the problem, but it can be reasonably expected of such a theory that it at least not preclude the possibility of such solution. If the past is not, in any sense, mutable, then it is sheer nonsense ever to think of "ransoming" the time or "redeeming" the errors of the past, except in a way involving only a subjective change of consciousness. May it not be the case, then, that if we are to take this aspect of experience seriously, we must, like Royce before us, either abandon the realist view of the past or at least qualify it very sharply indeed?

III

In affirming that "no fact justifies, accounts for, grounds itself" (514), Mr. Weiss admits as legitimate and philosophically important the question, "why is it that this rather than that fact is the case?" (*Ibid.*) In attempting to deal with his question, Mr. Weiss introduces a certain conception of God into the picture and then goes on to reject the possibility that this conception can provide a resolution. When a philosopher makes reference of any sort to God, there are at least two points upon which we must be clear: first, the specific conception he has in mind (in this case Mr. Weiss

is employing Malebranche's idea of God, involving as it does the denial of the so-called secondary causes) and secondly, whether or not he believes that existence as such has any ground beyond itself in the sense that it is contingent and dependent. About the first point there is likely to be little discussion; everyone would agree that being clear about such an important and generally vague concept as God is of the first importance (although it is usually forgotten that what a philosopher says about God is confined strictly to the specific conception he has in mind and not simply to "God" in any sense you please), but what may not be so obvious is why a philosopher's views on a possible ground of existence are bound up with his idea of God's nature and life.

Let us consider this last point briefly. If a philosopher thinks of existence as ultimate, then, if God is introduced at all, it is highly likely that He will be conceived as one more existent beside others, as "alien" to existence, and as more or less unnecessary as an explanatory principle. On the other hand, a thinker conceiving of existence as dependent and derivative, is likely to consider God not simply as one existent beside others, but as the ground of existence and of all the ontological determinations. The curious thing about Mr. Weiss' introduction of God is that he thinks of Him largely in the first sense, whereas the theologian he refers to clearly thought of God in the second sense. Thus it is no accident, that, despite Mr. Weiss' remarks about God, which show deep insight, he comes to the conclusion that to appeal to God as a principle of explanation in reference to the past, is to surrender man's "scientific, metaphysical and historical appetite" (514) and forestall rigorous pursuit of "naturalistic" explanation. Mr. Weiss seems to think that an appeal to God as a solution of his problem is at the same time an assertion that no "naturalistic" explanation can or need be given, whereas, Malebranche aside, many thinkers have supposed nothing of the kind. More often than not, reference to God as the ultimate "why" of particular fact is not regarded as a substitute for, but as a supplement to, the type of explanation Mr. Weiss seeks. And sometimes such reference is thought

of as touching upon a different dimension of meaning than can be found simply by tracing the causal patterns which span past, present and future. Why may not both types of interpretation be necessary?

Moreover, Mr. Weiss might have considered, besides Malebranche who was embroiled in the dispute over the "occasions" and "secondary causes," other thinkers who do not take his exclusive and wholesale approach. In any case, we are not entitled to conclude that God is irrelevant to a discussion of the past, just because one particular conception of God fails to be adequate even at an admittedly vital point.

There is one further aspect of this question which is worth considering. Mr. Weiss has not considered at least two possibilities involved in the "why" of his question: a) that there are different senses of "why," e.g. the "why" of reasons and the "why" of causes; and b) that unless it is held that existence is ultimate and independent, the "why" in the original question must be taken as referring, at least indirectly, *not* to that of particular existence, but to existence as such. Full consideration of (b) would take too much space, but further comment on (a) is possible. It may be that there is a sense of "why" to which a naturalistic explanation alone is relevant, but another sense to which it is not. Mr. Weiss does not consider the matter, but simply assumes that there is one sense of "why" and that the three alternatives he mentions, those of Hume, Malebranche and his own, are all to be taken as answers to this one question. It may be that Mr. Weiss is correct in his assumption, but the problem of different senses of "why" would remain. There is the "why" of causal connection and the "why" of intelligent purpose; and these are not the same, although, to be sure, there is no need to regard them as absolutely separate or incapable of being coordinated. Moreover, there may be other senses of "why" to be singled out if one carries the analysis far enough.

One illustration may serve to show the relevance of this point to a theory of the past. In asking his original question,

Mr. Weiss is calling attention to a gap between existence and fact; the why of particular existences requires more than an analysis of fact. In a great deal of classical metaphysics and theology there is a central problem — the problem of evil — which also asks the why of particular existence but it is questionable that Mr. Weiss' sense of "why" is appropriate to this problem. On any formulation of the problem of evil, some reference is made to the question Mr. Weiss proposes. (Or at least the language could be the same, even, if as I shall suggest, the meaning is different). A query is involved — why do certain events occur when their occurrence is supposed to be at variance with, or incompatible with, let us say, the existence of God. When Job, for example, asks the why of his particular plight, he is asking, among other things, why *these* facts and not some others. No doubt some answer can be given in Mr. Weiss' terms based on the past and the future, but is it not the case that to offer this kind of explanation to a Job (as indeed was done in part, according to the account) is like replying to the question, "Why did my son die now?" with "because his heart stopped beating" or some more complete account of the events running up from the past to the present event to be explained. Surely we are dealing with a different sense of "why" here, and one which is not answered simply on the basis of past fact in Mr. Weiss' sense at all. It is not that a naturalistic answer is wrong; it is simply inappropriate in certain cases. It may actually be an answer to a question not asked and a by-passing of one that was. Mr. Weiss is correct in saying that existence is not integral to fact, but he does not see that there are several senses in which the why of fact can be sought and the past will not supply the answer to all of them.[2] The question that remains is, what sense of "why" does Mr. Weiss have in mind? Whether God is at all relevant depends, at least in part, on the answer to this question.

[2] Many positivist philosophers have seen this point and, because they do not understand what goes beyond natural science, declare that the "why" of Job is meaningless.

IV

On several occasions, Mr. Weiss complains about philosophers taking refuge in "a precipitate acceptance of irrationalities" (515). I certainly agree with him in this; philosophy seeks explanation. But perhaps he needs to be reminded that no philosophical explanation ever avoids at least one "irrationality" or surd (and there is no reason why this should be either precipitate or "absurd"). Whitehead, for example, points out that "God" is the ultimate irrationality in virtue of the fact that He has no reason, being Himself the ultimate reason. It may be that some "irrationalities" are more justifiable than others but this does not free us from facing the fact that they are unavoidable. I suggest that Mr. Weiss' own irrationality here is the "the" in his expression "the past." He probably has not accepted it "precipitately" and indeed he may not regard it as an irrationality at all. Nevertheless, it may well be asked exactly what is the ground of the monism implied in the "the." Is it "the" past of the universe, of reality, of God, of existence of which Mr. Weiss speaks? Does the "naturalistic" explanation he calls his own provide him with "the" past, or does not the single seamless past of which he speaks involve something of an extrapolation beyond both fact and existence?

Moreover, the most important reason why Mr. Weiss should be careful about criticizing the intrusion of God into the picture is that "existence" is understood by him in a sense in which it becomes virtually equivalent to what has usually been meant by the term "God." Existence, on his view, has to be "time-spanning" because it "overflows" actuality; it makes, we are told, "one restless, surging whole" (522); it is "too big for present beings" and it is "ultimate and concrete enough to support what is abstract" (520). Existence, it would appear, comes closest to being what has been called in many systems of metaphysics, God. If this is the case, Mr. Weiss is actually in accord with Whitehead for whom process (what Mr. Weiss calls "existence") is ultimate and unconditioned.

V

Leaving aside these details, I have one basic criticism of Mr. Weiss' thesis which concerns his theory of the past in itself. The past, he says, does have a being of its own, but it has no substantial being (519) and on this account requires some support. And, Mr. Weiss continues, such support must be for the past in its bruteness and entirety; it cannot be for merely part of the past. Hence, he says, "a support for the past should not compromise the relevance of the past to the present; it must preserve every fact whatsoever" (519). It is at this point that Mr. Weiss once again introduces consideration of God and criticizes both Whitehead and Hartshorne for making God the support of the past. According to Mr. Weiss this is a mistake, because God as such does not provide support for the entire past but only for the past as purged of its follies. However this may be as far as Whitehead and Hartshorne are concerned, their conception of God's relation to the past is not the only possible one. To a thinker like Augustine, for example, the evil deeds of the past are retained in the divine memory as that from which the individual needs to be redeemed; were they not so preserved the concept of salvation would make no sense. Unlike the suggestion that God would preserve only so much of the past as would make a cosmic harmony possible, classical Christianity thinks of an ultimate "harmony" (the symbol of the "peace" of God) which is achieved through evil and folly, and not in their negation. Just as before, however, Mr. Weiss does not consider other possible conceptions of God but relies completely upon the one conception he has singled out.

The support for the past which Mr. Weiss finally offers is that of existence together with the mediation of the future. It is existence in its capacity to overflow the limits of the actual, presumably in both temporal directions, which guarantees to the past a substantial being. The past has being outside of present actuality on his view, because it is required for what falls beyond the present, *i.e.*, the future. Thus, he concludes, "the past thus has being only when and as the future does" (521).

The question which arises at once is this: is it not extremely unlikely that the past which is changeless can receive support from a present which is evanescent and a future which is non-existent? Does not the past seem more "solid" in itself than either of the two which are to join hands to sustain it? How can the evanescent and the non-existent be the ground of the changeless? It may be, of course, that these questions are idle because based on a misunderstanding of what it means for something to be a "support" for the past. Mr. Weiss is correct in holding that actuality[3] cannot be explained without reference both to past fact and to what he calls ontological possibility, and if the necessity of this reference is what constitutes a "support" fo rthe past then Mr. Weiss' analysis is successful despite the criticism advanced.

A great temptation in reflecting about the past is to ask "where" it is instead of "when" and "how" it is. Mr. Weiss does not yield to this temptation as is clear from his statement that the past has being only when and as the future does. The difficulty, however, is that the past cannot be when and as the future is because *as* future, the future *is* not in any sense at all. Whereas, while the past *is not* in the sense of "present" we are hesitant to say that it *"is" not* in any sense at all. The future, however, *is not* in any sense but as a possibility. Surely what has been and is fact has a more solid status than what has never been and is possibility.

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[3] I confess that I cannot tell from what he says whether Mr. Weiss is not sometimes using this term as a synonym for "existence" and *vice versa.*

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INTERNAL RELATEDNESS IN WHITEHEAD: A REJOINDER

IVOR LECLERC

Mr. William P. Alston [1] argues that there is a fatal inconsistency in Whitehead's philosophy, *viz.*, that the Principle of Internal Relatedness, which it maintains, contradicts the Principle of Pluralism, which is also essential to it. This, like many other apparent inconsistencies which various thinkers have discovered in Whitehead's theory, is the product of a too abstract consideration of the principles of his system without an adequate grasp of his fundamental metaphysical position.

One result of this, in the present case, is Mr. Alston's failure to appreciate the distinction between the "Principle of Internal Relatedness," the "Principle of Mutual Immanence," and the "Doctrine of Relativity," which he treats as simply equivalent (the last of these being regarded as an alternative "description" of the first); [2] and it is upon this equivalence that his entire case rests.

In Mr. Alston's view, according to the Principle of Internal Relatedness, "all the relations in which any actual entity stands are internal to it, and this in turn implies that it contains within its experience all the other termini of these relations. In other words, the Principle of Internal Relatedness says that an actual entity contains all the entities to which it is related." [3] Although this statement could be accepted as in accordance with Whitehead's doctrine, Alston interprets it as implying both that all relatedness is internal and that all internal relatedness is mutual, and holds that this is Whitehead's explicit view. Thus he says that the Principle of Mutual Immanence "consists in asserting that actual occasions are

[1] In the *Review of Metaphysics*, V, (1952), pp. 535-558.

[2] Cf. *ibid.*, p. 538.

[3] *Ibid.*, pp. 542-3.

present in, or parts of, each other," [4] and that this is "another form" [5] of the Principle of Internal Relatedness. A few sentences further on he states: "More precisely, any actual occasion contains as ingredients, or components, all entities to which it is (internally) related, and conversely it enters as an ingredient into all the actual occasions which are (internally) related to it."

But it is neither Whitehead's doctrine nor an implication of his Principle of Internal Relatedness that the second statement is the *converse* of the first. Both statements are correct, but not as the converse of each other. If one actual entity be internally related to another it does not follow, nor is it Whitehead's view, that the latter must be internally related to the former. On the contrary, Whitehead maintains that the latter actual entity must be externally related to the former.

Mr. Alston has thus seriously misconceived both Whitehead's Principle of Internal Relatedness and his Principle of Mutual Immanence, and the passages he has quoted from Whitehead in support of his interpretation cannot bear the construction he has placed on them. For example, he gives the following from *Science and the Modern World* as one of "Whitehead's most decisive statements of this position": [6] "The theory of the relationship between events at which we have now arrived is based first upon the doctrine that the relatednesses of an event are all internal relations..." But had Mr. Alston considered carefully the remainder of this passage, which he has omitted to quote, he might have realized that in it Whitehead was very far from maintaining a doctrine of wholly internal relations, or of mutual internal relationships. This is the statement in full:

> The theory of the relationship between events at which we have now arrived is based first upon the doctrine that the relatednesses of an event are all internal relations, *so far as concerns that event, though not necessarily so far as concerns the other relata* (my italics).[7]

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[4] *Ibid.*, p. 537.

[5] *Ibid.*

[6] *Ibid.*, p. 536.

As Whitehead goes on to point out, "for example, the eternal objects, thus involved, are externally related to events." And he might have added that the antecedent events are also externally related to the present events (though the present events are internally related to the antecedent ones).

This is no mere arbitrary restriction on the generality of a principle, or a "qualification" as Mr. Alston sees it;[8] the Principle of Internal Relatedness necessitates a Principle of External Relatedness if the former is not to collapse into meaninglessness or, with Bradley, into unreality. Thus Whitehead's Principle of Internal Relatedness, correctly understood, does not reduce to a monistic "all-embracing totality of process,"[9] thereby contradicting the Principle of Pluralism, as Mr. Alston argues, but rather does it necessitate a pluralism of actual entities which are externally related to any particular present actuality, but to which the present actuality is internally related.

University of Glasgow.

[7] Alfred North Whitehead, *Science and the Modern World* (New York: Macmillan, 1925), p. 179.

[8] Cf. *ibid.*, p. 544.

[9] *Ibid.*, p. 543.

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Explorations

CURRENT ISSUES OF IMPORTANCE IN AMERICAN SOCIOLOGY AND RELATED DISCIPLINES

PART II

MILDRED B. BAKAN

An adequate theoretical approach to man must be avowedly ideal typical. An ideal type approach requires that the investigator take his point of departure from an appreciation of the phenomenon as unique; that is, as it is to itself. The ideal type theorist abstracts the essential features of the phenomenon and communicates by presenting these features. Thus, the cognitive mode of reference is utilized to achieve communication. Moving as it does between an appreciation of the phenomenon as unique and its description in terms of abstracted essential features, it requires the investigator to maintain an on-going inter-change between affective and cognitive modes of reference.

Ideal type theory is not concerned with a description of the minutiae of an individual's experience, nor again with the minutiae of the experience of a group of individuals. Ideal type theory describes *modes of reference*. The degree to which the mode is exemplified by extant individuals may be irrelevant to the validity of the mode as such. What is necessary, as Weber realized, is that the mode be possible. Yet validation of possibility turns upon the use of laws which apply to all possible modes of reference.

This is not a contradiction. Ideal type theory is validated primarily through exercise of the imagination of the investigator, who, having become identified with the mode of reference under analysis, proceeds to a consideration of the elements necessary and sufficient for its make-up. In so doing, his imagination is governed by considerations of possibility and impossibility developed on the basis of a phenomenological

analysis of his own experience. The control of ideal type theory by considerations of possibility and impossibility is, in principle, the same as that of physical theory, whatever differences there are being due merely to difference in subject-matter. Experimentation, attitude scaling, poll-taking, clinical study, etc. in no way eliminate the necessity for the development of ideal type theory, for the data can be assessed only on the basis of theoretical considerations involving the scientist's imagination.

To suppose, as Howard Becker (2) seems to, that ideal type theory can be validated solely on the basis of statistical analysis of collected data is disastrous. This conception, instead of being an improvement of Weber's formulation, loses its spirit. Some of Weber's methodological statements are, to be sure, misleading. Thus in his essay, "The Logic of the Cultural Sciences" (32), Weber claims that the proper basis for validating imputation is estimated frequency of the association of the imputed factors with an event of the sort under investigation. This would seem to imply that statistical analysis of collected data really constitutes a more refined validation of ideal type theory (of which imputation is an instance). However, such an interpretation ignores the fact that Weber is presenting an analysis of the way in which *imagination* is used to validate imputation on the premise that insight into real connections is impossible. On the other hand, the analysis of ideal type theory that I have presented maintains that insight into real connections is, indeed, the core of the whole approach.

David Riesman's book, *The Lonely Crowd* (25), exemplifies a proper application of an ideal type approach. Riesman's book has come in for some criticism by sociologists because of his failure to support his analysis with statistical evidence. Since Riesman is claiming that a change is taking place in the kind of personality dominant in American culture, and, indeed, in Western culture generally, statistical evidence is certainly called for. Nonetheless, a good part of his argument can proceed without the use of statistical material. His thesis is that the change in population trend toward stabilization is correlated with a change in valuation, from production to

consumption. This change in valuation may be traced to the increased leisure, higher standard of living, and change in economically necessary skills brought about by technological improvements made possible by the scientific advance responsible, also, for lowered death and birth rates. The change in valuation reflects itself, of course, in the culturally dominant personality type. Riesman analyzes this change in personality type as a shift from inner-directedness to other-directedness. The inner-directed person is inwardly driven to the realization of ends from which he cannot deviate. He is exemplified by the captain of industry of 19th century America. In contradistinction, the other-directed person is so highly flexible that his ends become determined by the demands and reactions of the personalities he encounters. Neither shows full creativity in his valuation; that is, in Riesman's terms, autonomy. However, Riesman believes that the other-directed person, unlike the inner-directed person, is *potentially* autonomous and that the anxiety reflected in other-directedness can be overcome only by the development of that potentiality. Riesman fails to make a case for the generalized correlation of change in population trend with change in personality type from inner-directedness to other-directedness. Nonetheless, Riesman's analysis remains highly provocative. It gives every promise of holding for American culture, and, whatever its shortcomings, shows a commendable appreciation of the nature of ideal type theory. The cultural diversity of the peoples of the United States, and the possibilities in this country for physical prosperity, have combined to encourage what may be referred to as "attrition of the self" in American culture. By "attrition of the self," I mean absence of differentiated inwardness, or externalization of personality (see in this connection the book by Robin M. Williams, Jr.: *American Society* (34), pp. 401-4, 422-6). This attrition of the self is, indeed, manifest in inner-directedness no less than in other-directedness, but becomes other-directedness when it is necessary to take into account the interests of others.

An ideal type approach is able to use the objective import of cognition and valuation to extend self-awareness. That an

ideal type approach does not, therefore, necessarily lead to a properly objective conception of knowledge and value,[6] is evident from the shortcomings of Weber's position on these matters. Weber was keenly aware of the impact of valuation on cognition, but failed to appreciate the converse impact of cognition on valuation. For this reason, he arrived at a subjective conception of value, and, correlatively, a false conception of the relationship between the study of man and knowledge of value. Final values, Weber maintained, are beyond the scope of knowledge altogether; and, accordingly, the study of man, properly conceived, is restricted to ascertainment of the means whereby final values — ultimately a matter of subjective choice — can be attained. This aspect of his position is supplemented — indeed, partly corrected — by his conception of the social sciences as essentially instrumental to the final values of the social scientist. He looked upon his own work as essentially instrumental to rational self-determination, the value whereby he himself chose to live (see (32), p. 18).

Weber's conception of the social sciences as capable of yielding knowledge of instrumental value only, is stressed by American social scientists, but the significance of his demand that the social scientist regard his work as instrumental to his own end-values is largely ignored. Thereby, the spirit of Weber's position is lost. For, by virtue of his conception of the study of man as essentially instrumental to the values of the social scientist generally, and to the value, rational self-determination in particular, Weber did, in fact, study man so as to extend insight into value significantly (31).

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[6] I use the term "value" to refer to value-as-known and also value-as-fact. This involves an ambiguity, which, I trust, is eliminated by the context. I have refrained from introducing terminological differentiations (1) because of pragmatic reasons and (2) because the ambiguity reflects, I think, something inherent in the nature of (real) value. The arguments of epistemological idealism (and Dewey) notwithstanding, I do not believe that fact, as it becomes known, is created in the same sense that value is. Knowledge of fact is awareness of what exists; knowledge of value is awareness of what *should* exist. What *should* exist is relative to an experiencer; what *does* exist is not. For what should exist always depends on that with which an experiencer can unify. For this reason, imposition of one's own value-beliefs on another can, indeed, be wrong.

As Weber recognized,[7] the relation of the study of man to the values of the social scientist is an essential difference between the social sciences and the physical sciences. The distortion of Weber's position is thus related to the physicalist orientation so widely prevalent in American social science. Indeed, we can now see that the proclivity to physicalism involves an implicit value orientation, to the effect that the study of man shall be no more relevant to the values of the scientist than the study of the physical world. This value-orientation serves to insulate the values of the social scientist from the potential impact of his investigation of man.

The study of man, however approached, cannot be divested of significant impact on the values of the social scientist, because the social scientist, in investigating man, is inevitably gaining knowledge of himself. However, only if the study of man incorporates an adequate conception of value, can its full potentialities for extension of our knowledge of value be realized.

Failure to recognize the dependence of valuation on irreducibly affective components results in a purely cognitive theory of value. This type of theory allows for the objectivity of values by obliterating the distinction between value and fact. James Feibleman's *Theory of Human Culture* (6) provides a very well developed instance of this type of approach. Feibleman recognizes that feeling, in the sense of affection, plays an important role in value-formation. However, Feibleman argues, feeling is really unconscious belief. This makes it possible to interpret culture in purely cognitive terms, as equivalent, simply, to the "implicit dominant ontology" of a group. The shortcoming of Feibleman's theory is indicated by its inability to explain the enormous difficulty — all too frequently encountered — in effecting changes in *belief*. In fact, belief will often resist change until, first, the supporting feelings are altered. This shortcoming can be corrected only by recognizing that valuation involves a mode of reference that is *identificative* in nature, and is, therefore, essentially different from cognition as such.

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[7] In his essay, " 'Objectivity' in Social Science," (32) Weber defines social science as *essentially* value-relevant.

The error made by contemporary American social scientists is, typically, of a different sort. The critical importance of purely affective factors in value-formation is freely recognized. The affective dimension of experience is referred to in such diverse terms as: need, satisfaction, frustration, tension, stress, strain, anxiety, aggression, submission, identification, transference, love, hate, etc. But having recognized the affective components of value, they seem to have lost sight of its cognitive aspects. More particularly, the determination of valuation by content is either ignored or distorted. As a result, value is subjectivized.

The claim of values, as standards, or norms, to rightness is recognized, but this claim to objectivity is explained, typically, as the internalization of social disapproval for deviation from the standard. Internalization of social disapproval is itself readily categorized as a species of learned inhibition. Analyses of the mechanism of its development may vary somewhat as to details, however. The most subtle versions bring in empathetic identification with the members of the group in which one's needs find satisfaction. Sociologists are prone to analyze identification further as the assumption of the role of others toward oneself by acting (behaving) toward oneself in the observed manner of others. This use of role-taking was introduced by George H. Mead (17), who sought thereby to account behavioristically for the phenomena of empathetic identification. However, Mead recognized the possibility of taking the role of the generalized other; i.e., the role of the other as such, divorced from the intrusion of personal interest. Current versions depart significantly from Mead's conception by making the relation between role-taking and need-satisfaction *essential*: an individual identifies himself with the members of a group as a result of their satisfaction of his needs. When such identification is achieved, the individual is spoken of as "socialized." Apparently, it is impossible to rise to the level of *cognitive* consideration of the needs of others, for this would require transcendence of personal interest.

This version of value is to be found in the work of social scientists of such diverse orientations as Harold D. Lasswell

(12), Samuel A. Stouffer (28), and Howard Becker (2). The conception of value as simply a conditioned response (habit), learned under the dual influence of repetition and need-satisfaction, developed by Hull and his followers, and incorporated by Murdock (20), and, apparently, Herskovits (8) as well, is at least consistent with this general approach. The influence of this version of value is to be seen also in the typical interpretation of the functionalist conception of adjustment — which, systematically considered, refers essentially to the responsiveness of valuation to needs, and, as such, points to the affectively creative aspect of valuation — as identical with the acceptance of institutionalized (socially approved) norms.[8]

As Leo Strauss implies in his pointed little book *On Tyranny* (29), this type of approach to mind is basically collectivist. The social scientist who holds to this version of value, must regard himself as merely socially maladjusted if he finds himself seriously critical of the way of living about him. What right has he to try to alter the world? Some seek a way out by arguing, as Clyde Kluckhohn does in *Mirror for Man* (10), that those values which are rooted in the universal needs of men are objective. But this type of approach cannot ground the objectivity of value, because the necessary rightness which a value claims, and which a valid value has, is simply not equivalent to found agreement among men.

The change in theoretical position sketched by Talcott Parsons in his presidential address to the American Sociological Association in 1949 (42), seemed to promise a solution to the problem. Parsons announced he could no longer hold to a conception of value as reducible to a combination of role-assumption and need-satisfaction. He had come to the realization that values must be treated as an independent dimension, if the complexities of social processes are to be accounted for. The way seemed open for an explication of the transmission and alteration of institutionalized norms in terms of the interaction of role-taking, need-satisfaction, and the creativity of the individ-

[8] This equivocation in the meaning of adjustment has been frequently pointed out, but its theoretical basis does not seem to be recognized. See, for example, (38).

ual as a value finder. Parsons has since developed his position in a monograph, co-authored with Shils, *Values, Motives, and Systems of Action* (22), and a book, *The Social System* (23). Unfortunately, both of these publications appeared too late for me to have been able, by the time of this writing, to consider them with the thoroughness they merit. A summary appraisal indicates, however, that the initial promise of a really adequate theory of value has not been borne out. The mechanism of internalization is retained with much the same theoretical significance. Man's necessity for values, as such, is recognized, but the source of the values held by an individual is traced to his internalization, under the impact of need-satisfaction, of the values of other individuals with whom he must interact. More exactly, the necessity for values (moral values only ?) is derived from man's social dependence and his consequent need for stabilized social interaction in terms of roles, and the particular nature of the values internalized is attributed to the cultural milieu. The only respect in which Parsons' revised position seems to improve significantly upon his earlier one, is in its recognition that man is, so to speak, a value-forming animal, and this propensity influences individual needs and social interaction; more particularly, role-assumption. In another respect, however, Parsons' position seems to lose in clarity. Role-taking is intrinsic to stable social interaction, but values — even moral values — are not. In any case, the objective import of values remains essentially spurious. For cognitive assessment of the validity of norms is, apparently, ruled out as impossible, or irrelevant. By implication, the social scientist may be expected to stand by the values he feels right, with no other justification for commitment than the belief that he will thereby be acting as an instrument of his culture. This conception of values seems to bear marked similarity to Weber's. For Weber, however, ultimate values are a matter of choice, whereas for Parsons, ultimate values are the basis for choice, and themselves beyond choice.

If the referential character of valuation in its purely affective aspects is recognized, the objective import of value becomes comprehensible as the purported determination of valuation by

content. Value judgment can then assume meaning as the *cognitive* assessment of the determination of valuation by the *content* valued (see p. 146). In moral judgment, man evaluates himself. Thus morality is possible because man is capable of questioning his own value. The rights a man claims are the conditions for his positive self-evaluation, and his recognition of the rights of others is relative to his awareness of himself as a man, identical with men.

The value of a valued content is correctly judged, if and only if the relationship of the valued content, as regards its determination of valuation, to any possible content that may be valued, is correctly judged. Clearly then, only purely abstract (formal) value judgments, such as the categorical imperative, can be regarded as final. As value judgment becomes concrete, the possibility of error cannot be eliminated. Yet, implicitly and explicitly, we are always making value judgments, some more, some less concrete. For with the development of cognition, each action of ours becomes, in its way, an expression of choice. Value judgments, thus become bases of choice, are norms. As bases of choice, norms guide action toward experiential content, the value of which has been positively judged, and away from experiential content the value of which has been negatively judged. Thereby, norms restrict experience so as to validate themselves. This restriction of experience can be overcome only by releasing the imagination. It is in this respect, that the study of man can have its most profound significance for the knowledge of value. In value judgment, cognition seeks to assess the value of the valued content. In the study of man, cognition is concerned not with the value of the valued content, but rather with the factors necessary and sufficient for the recognition and distortion of this value. Clearly, the second task cannot proceed apart from the first, but neither can the first apart from the second. For those deficiencies of the imagination which hinder value judgment most seriously can be removed only by awareness of their constitutive factors. As a matter of fact, this sort of awareness can change (non-instrumental) value judgment, by so changing the self as to permit the contemplation of previously unimaginable possibilities of experience.

Social scientists who have felt the significance of psychoanalysis (e.g. Lasswell (11)), or of the sociological approach to knowledge (e.g. Wolff (35)), have long recognized the potential impact of the study of man on valuation. Their conception of the significance of the study of man for the knowledge of value has, however, usually been confused by distrust of the objectivity of cognition itself. Cultural anthropologists who conceive of cultural relativism as a positive ethical insight emerging from the study of culture (e.g. Kluckhohn (10)), also give evidence of an appreciation of the importance of the study of man for knowledge of value. Unfortunately, their statements on cultural relativism have served, typically, to obscure, rather than to clarify, the ground of this importance. In arguing, on the basis of his findings, for the validity of cultural relativism as an ethical insight, the cultural anthropologist is really pointing to the effect of the study of alien cultures on his own valuation. So far from being a contradiction of absolutism, cultural relativism, as an assertion of the right of a people to pursuit of the values they have found, is simply an instance of the categorical imperative, appreciated, now, in the context of culture.

One final point is in order. The study of man may release the imagination of the social scientist, but it remains for him to decide whether or not to use his knowledge to release the imagination of others. Is imaginative release always good? Man begins to doubt his worth when reference is disappointed. He reasserts his worth by changing either the world or himself so as to reconcile reference and reality. Release or restriction of the imagination effects a change in man's self: release of the imagination increases his capacity for rational self-determination; restriction of his imagination increases his dependence. But dependence makes man suffer only insofar as it fails to eliminate his sense of possible insignificance; that is, only insofar as it fails to reconcile reference and reality.

The Grand Inquisitor was convinced that restriction of the imagination is to man's interest, but this conclusion is grounded in the belief that intrinsically life is not worth living. It is, therefore, necessary to restrict man's imagination in order

to induce him to go on. However, only by exercise of his capacity for rational self-determination can man come to know the true ground of his value: creativity, which is identical, not with rational self-determination, but with the process of fulfilling reference. The demand that life find its justification beyond life indicates that the intrinsic worth of living is obscured by the inhibition of creative impulse to correct a disappointment of reference.

Whatever the conditions of stress, all other relevant factors being equalized, it is the imaginatively released man who is most effective. This holds true even in time of war,[9] provided the cause is just. So far as I can see, the restriction of the imagination of men is called for, only when, in some way, their exploitation is intended.

Columbia, Missouri.

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[9] It is interesting to note in this connection, that the research reported in *The American Soldier* (28) indicates that Stouffer and his associates did, in fact, seek to release at least the affective creativity of the service man. As they admit, they were, however, largely unsuccessful. The reasons are, I think, several. (a) They were unclear about their end largely because (b) their theoretical orientation identifies affective creativity with adjustment (see p. 307) so as to falsify the nature of self-determination. Moreover (c) they had to counter with the norms of an institutionalized group, whose members think it best that the creativity of the service man be restricted.

Bibliography

Books and Monographs:

(1) Bakan, David: *Notes on Method;* duplicated.

(2) Becker, Howard: *Through Values to Social Interpretation;* Durham, N. C., Duke Univ. Press; 1950.

(3) Davis, Kingsley: *Human Society;* New York, Macmillan; 1949.

(4) Davis, Kingsley (ed. with Bredemeier, Harry C. and Levy, Marion J., Jr.): *Modern American Society;* New York, Rinehart; 1949.

(5) Dewey, John: *Logic, The Theory of Inquiry;* New York, H. Holt; 1938.

(6) Feibleman, James: *The Theory of Human Culture;* New York, Duell, Sloan and Pearce; 1946.

(7) Freud, Sigmund: *An Outline of Psychoanalysis* (Auth. Tr. by J. Strachey); New York, W. W. Norton; 1949.

(8) Herskovits, Melville J.: *Man and his Work;* New York, A. A. Knopf; 1948.

(9) Hull, Clark L.: *Principles of Behavior;* New York, D. Appleton-Century; 1943.

(10) Kluckholm, Clyde: *Mirror for Man;* New York, Whittlesey House; 1949.

(11) Lasswell, Harold D.: *World Politics and Personal Insecurity;* republished in *A Study of Power;* Glencoe, Ill., Free Press; 1950.

(12) Lasswell, Harold D. and Kaplan, Abraham: *Power and Society;* New Haven, Yale Univ. Press; 1950.

(13) Lewin, Kurt: *A Dynamic Theory of Personality;* New York, McGraw-Hill; 1935.

(14) Lewin, Kurt: *Resolving Social Conflicts;* New York, Harper; 1948.

(15) Lewin, Kurt: *Field Theory in Social Science;* New York, Harper; 1951.

(16) Lundberg, George A.: *Foundations of Sociology;* New York, Macmillan; 1939.

(17) Mead, George H.: *Mind, Self and Society* (ed. by C. W. Morris); Chicago, Ill., Univ. of Chicago Press; 1934.

(18) Merton, Robert K.: *Social Theory and Social Structure;* Glencoe, Ill., Free Press; 1949.

(19) Miller, Neal E. and Dollard, John: *Social Learning and Imitation;* New Haven, Yale Univ. Press; 1941.

(20) Murdock, George Peter: *Social Structure;* New York, Macmillan; 1949.

(21) Parsons, Talcott: *Essays in Sociological Theory, Pure and Applied;* Glencoe, Ill., Free Press; 1949.

(22) Parsons, Talcott and Shils, Edward A.: *Values, Motives, and Systems of Action;* published in *Toward a General Theory of Action;* Cambridge, Mass., Harvard Univ. Press; 1951.

(23) Parsons, Talcott: *The Social System;* Glencoe, Ill., Free Press; 1951.

(24) Reik, Theodor: *Listening with the Third Ear;* New York, Farrar Strauss; 1948.

(25) Riesman, David and collaborators: *The Lonely Crowd;* New Haven, Yale Univ. Press; 1950.

(26) Shils, Edward: *The Present State of American Sociology;* Glencoe, Ill., Free Press; 1948.

(27) Simmel, Georg: *The Sociology of Georg Simmel* (Tr. and ed. by K. H. Wolff); Glencoe, Ill., Free Press; 1950.

(28) Stouffer, Samuel A. and collaborators: *The American Soldier;* Princeton, N. J., Princeton Univ. Press; 1949.

(29) Strauss, Leo: *On Tyranny;* Glencoe, Ill., Free Press; 1948.

(30) Sullivan, Harry Stack: *Conceptions of Modern Psychiatry;* Wash. D.C., Wm. Alanson White Memorial Lectures; 1945.

(31) Weber, Max: *The Protestant Ethic and the Spirit of Capitalism* (Tr. by T. Parsons); London, G. Allen and Unwin; 1930.

(32) Weber, Max: *The Methodology of the Social Sciences* (Tr. and ed. by E. A. Shils and H. A. Finch); Glencoe, Ill., Free Press; 1949.

(33) Weiss, Paul: *Man's Freedom;* New Haven, Yale Univ. Press; 1950.

(34) Williams, Robin M., Jr.: *American Society: A Sociological Interpretation:* New York, A. Knopf; 1951.

(35) Wolff, Kurt H.: *Loma Culture Change: A Contribution to the Study of Man;* mimeographed.

Articles:

(36) Bakan, David: "Learning and the Scientific Enterprise"; to appear in *Psychological Review.*

(37) Cottrell, Leonard S. Jr.: "Some Neglected Problems in Social Psychology"; *American Sociological Review, 15,* 1950; 705-12.

(38) Eaton, Walter H.: "Alternative Meanings of Adjustment"; *American Sociological Review, 12,* 1947; 75-81.

(39) Foote, Nelson: "Participant Experimentation"; mimeographed.

(40) Grafton, Thomas Hancock: "The Sociology of Right and Wrong"; *American Sociological Review, 12,* 1947; 86-95.

(41) Lindesmith, Alfred R. and Strauss, Anselm L.: "A Critique of Culture-Personality Writings"; *American Sociological Review, 15,* 1950; 587-600.

(42) Parsons, Talcott: "The Prospects of Sociological Theory"; *American Sociological Review, 15,* 1950; 3-16.

(43) Taylor, Carl C.: "Sociology and Common Sense"; *American Sociological Review, 12,* 1947; 1-9.

(44) Ulrich, David N.: "A Clinical Method in Applied Science"; *Philosophy of Science, 16,* 1949; 243-9.

(45) Wolff, Kurt H.: "The Unique and the General: Toward a Philosophy of Sociology": *Philosophy of Science, 15,* 1948; 192-210

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Notes and Observations

PLATO STUDIES AS CONTEMPORARY PHILOSOPHY

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By every criterion except the fortuitous one of date of birth, Plato is the most important contemporary philosopher in the United States today. Part of this importance is immediately apparent: the dialogues, in English translations, present superlatively the challenge of intellectual discovery and describe and illustrate the philosopher's ideal of a speculative synthesis of knowledge. Our continued interest in the *Republic* is the outcome of a tradition in political and theological speculation which has become constitutive of modern "common sense." New discoveries in science, and new tactics in philology, bring out with increasing clarity the brilliance with which Plato saw the possibilities of the science of his own time, and the need to fill in the detail of sciences "not invented as yet" when he described them.

But this is only half of the picture. Plato makes sense to the modern American reader because that reader is influenced by a physics and cosmology radically Platonic in historic origin and in content; and because he is influenced by mathematics and formal logic which are producing challenging original speculation, and which are of a Platonic character both in genesis and nature.

As yet, however, we have not attained the full contact between these two lines of development, which was the idea behind the Academy —where jurisprudence, cosmology, higher mathematics, and medicine were to be brought into speaking acquaintance with each other, under the direction of philosophy. The custody of Plato's work is today shared by philologists, historians, historians of science, moral theorists, historians of philosophy, and theologians. But to appreciate Plato's text, we also need logicians, mathematicians, and scientists in our modern Academy.

Historical and philological studies are not valued today so much as antiquarian enterprises, but rather as relevant to discovering in Plato new statements and solutions of problems

in our own philosophy. If we were to give up meticulous insistence on historical-philological study, and allow editors and translators each to excise whatever does not fit his own insight or taste, the dialogues would quickly become a mere maze of platitudes devoid of philosophic value. Plato as a contemporary English-speaking philosopher is interesting only so long as the text is protected from unwarranted excision and unhistorical interpretation.

A selection of current Plato studies shows the range of work being done, the kinds of scholarship involved, and the possibilities for new insight that may appear when questions raised by this work lead us to bring together fields now out of touch with each other. Plato's writing embodies his ideal of synthesizing all relevant branches of knowledge, and forces the reader to consider the metaphysical implications of many suggested points of relevance. At least, this is its effect if the writing is read as philosophy; if we forget to ask what it means and whether it is true in the interest of more limited technical exercises in semantics or history, it is possible that nothing useful will be suggested.

The re-issue of R. Klibansky's *Continuity of the Platonic Tradition* provides a model prologue to the study of the historical career of Platonism in its transmission through Hellenistic and medieval to Renaissance, then to modern times.[1] Discovery of new sources continues to confirm the hypothesis that there is such a direct continuity of tradition.[2] A clearer awareness of its nature and influence should help us to understand the science, philosophy, and common sense of our own day. The study is practically perfect within its stated objectives; it provides an example of respect for demonstrable historic and philological fact which is worth emulating. It is provocative in a Platonic sense because like all "arts of hunting" it leads at once to questions of the proper philosophic value and use

[1] Raymond Klibansky, *The Continuity of the Platonic Tradition During the Middle Ages*, re-issue with new Preface, The Warburg Institute, London, 1950.

[2] *Ibid.*, p. 10, for example, refers to "the discovery of . . . part of an ancient work on Plato's writings, giving a summary of the contents of each of his books . . ."

to make of the quarry that is caught.[3] In considering these questions, it seems that we must simultaneously learn how we have come to think as we do, and how we do in fact think; one use of history is to help a man "know himself." [4]

For the reader who likes Plato as a writer of intellectual drama, combining dialectical and aesthetic interest, the *Gorgias* is an excellent dialogue. The characters (especially Callicles), the conflicts of character and of basic moral theories, are recognizable through their close counterparts in our modern scene. The character of Socrates is a synthesis in a single dialogue of the contentious analyst of Plato's *Lysis, Laches, Charmides,* and *Euthyphro,* and the man of deep moral conviction of Plato's *Apology, Crito* and *Phaedo.* As literature, this is an effective and fascinating characterization; as history, a philosophically profound one. A translation of the *Gorgias* by William Helmbold in the Library of Liberal Arts now gives a new and inexpensive English version.[5] The text is in readable colloquial English, as it should be. On the other hand, the book is one that an aesthetician or philosopher will almost surely need to supplement and criticize at certain points. The Introduction is enthusiastic, but does not give much useful insight to the prospective reader. The present emphases on love of truth as a unifying Platonic motivation and of the issue of true versus false rhetoric (which the translator feels that Aristotle's *Rhetoric* clarified and largely resolved) could be supplemented or replaced by some other points. For example, one would like to see added: 1) a clearer indication of the dramatic unity of the dialogue, 2) an indica-

[3] The distinction of arts of hunting and of use is that of Plato's *Euthydemus.* The only critical comments that seem possible are 1) a minor typographical error on p. 53, and 2) omission, p. 51ff. of explicit mention of Aristotle himself (as opposed to his commentators) as a source for knowledge of Platonism (though this is perhaps implied by the inclusion of the commentaries).

[4] The *Euthydemus* includes mathematics among the arts of hunting; its conclusions are turned over to the philosopher to be used. Purely formal or "factual" questions can be given a "closed" solution, until the results are put in the context of a philosophy. Translation falls between the two kinds of art; transposition and interpretation are arts of use.

[5] *Plato's Gorgias,* translated with an Introduction by W. C. Helmbold, The Liberal Arts Press, New York, 1952.

tion of the basic moral issue raised, and its revival in contemporary technical discussion of ethics; 3) some indication of the technical character of dialectic; 4) a suggestion of the dual character of Socrates, and its relation to the other early dialogues. Suitable cross-references to other Platonic dialogues are needed. The Bibliography omits A. E. Taylor's *Plato*, in which one of the analyses of the dialogue most relevant to our contemporary discussion is given. The conflict between a morality grounded in duty and one based on pleasure is brought out by Taylor with full awareness of the recurrence of this issue between contemporary Kantian and Neo-Utilitarian thought. The translator, like Croiset, brackets three steps of argument at 460C, and also brackets 510A.4-5, in both cases deleting steps required for the logical validity of the argument.[6] At 505D.7-8 and 520B.2-4, other bracketings are introduced which rob the dialogue of ironic comments that summarize and underscore the attitude of Socrates toward Callicles.[7]

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[6] Helmbold, *op. cit.*, 20. The argument runs: 1) the rhetorician has learned justice; 2) anyone who has learned justice is a just man; 3) the rhetorician is a just man; 4) a just man acts justly; 5) hence the rhetorician acts justly; 6) the just man will never wish to commit injustice; 7) by the earlier proof, the rhetorician is just; 8) the rhetorician will never wish to commit injustice; 9) Gorgias was wrong in his earlier assumption that a rhetorician could act unjustly. Steps 6, 7, and 8 are bracketed, though 6 and 8 are logically independent of 1-5, and 7 is needed to prove 8 from 6. At 510A, there is a two-step inference: 1) any man who wishes to avoid doing injustice must have acquired a certain power and art; 2) hence, if we wish to avoid doing injustice, we must acquire a certain power and art. Helmbold brackets step 2). This leaves the immediate inference tacit, not explicit, which is something Socrates is careful throughout the dialogue never to do.

[7] On p. 80, *ibid.*, we find: "[*Socr.* Here's a man who can't endure benefaction. He can't stand what we're talking about: punishment.]"

In a note, the translator remarks: "The bracketed speech is probably an interpolation; at the very least it gives an odd turn to the methods of Socrates". It does not, of course, if we understand "punishment" in the sense Socrates has earlier defined; perhaps better than any other such aside in the dialogue, it sums up Socrates' relation to Callicles. Again, on p. 98, Socrates counters Callicles' distaste for sophistry by insisting that sophistic is better than rhetoric (just as refutation is better than flattery). This, too, is bracketed. The result is that an able reader will be likely to be

N. R. Murphy's *Interpretation of Plato's Republic* restates a Platonic argument in the technical idiom of a modern philosophy, and examines the meaning and contemporary relevance of Plato's treatment of the relation of duty and interest.[8] The basic argument traced through the *Republic*, that the life of the just man is more pleasant than that of the unjust, is sometimes overlooked or too lightly dismissed by readers of the dialogue. But parts of the *Republic* do not transpose well into the British common-sense idiom chosen for this explication. The entire central section (Books vi-vii) must apparently be circumvented if the transposition is to make sense of the *Republic*. This is attempted by, for instance, suggesting that we bracket out the reference to a line in the "divided line" passage; by treating the "puppets" in the Cave Allegory as solid figures, seen as such — a treatment which intrudes an epicycle into the journey, and makes the allegory incapable of close interpretation; and an insistence that the technical terms of Platonic metaphysics are often used non-technically, and may be so used here.[9] Mr. Murphy, convinced that the properly "mature" form for philosophical exposition is the use of literal propositions, bleaches out Plato's vivid imagery and

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puzzled and discouraged at finding the translator's judgment so opposed to his own notions of the intention and unity of the dialogue.

[8] N. R. Murphy, *The Interpretation of Plato's Republic*, Oxford Press. 1951.

[9] Murphy, *op. cit.*, pp. 151-93, 161-2. On p. 157, it is suggested that *anisa tmemata* be bracketed out, and later use of *tmema* be read *not* as referring to segments, but to sections of the range of cognizable things. The suggested bracketing is not supported by textual corruption; the only textual issue is one of word division into *an isa* or *anisa* or *an' isa*. The suggestion that *anisa* would contradict *dicha tetmemenen*, since "bisection" is into equal parts in standard usage, actually shows why the explicit qualification "unequally" is not redundant, and seems to tell against deleting it. The strongest argument here, that the diagram involves a geometrical impossibility, is not mentioned. But in any case, any division of objects of cognition into "sections" seems to suggest a schematization which will run into the same problems as the line, whether or not the text is changed as suggested.

On pp. 161-2, the allegory of the cave is treated on the assumption that the ascending prisoner sees puppets which are solid objects, thus more real than the shadows of the outer world, at the second stage of escape, but sees them by fire, not sun light, so that they are discerned less clearly. This creates a problem, because it suggests that the objects of right opinion

metaphor, making one appreciate the advantages of philosophy expounded in a somewhat less "mature" form.[10] The *range* of usage of various Platonic terms is very sensitively indicated; but there is no attempt, as I am sure there would be by a formal logician, to use vectors and matrices to order usage within each range systematically.[11] This interpretation does full justice to Plato as a philosopher in taking a basic ethical argument seriously and asking whether, within a contemporary frame of discussión, the thesis is meaningful, and, if so, whether it is true.[12] The frame of reference chosen, however, is not in the Platonic tradition; in fact, it seems in part to have been devised in protest against one "traditional" type of Platonism. It is therefore of considerable interest to compare the effect of this transposition with what would result if we used a speculative frame such as those which various admirers of A. N. Whitehead have employed.

J. B. Skemp's translation of the *Statesman* [13] is a technical

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are in one sense more real than those studied by *dianoia;* a modern philosophy in which theories of human nature and conduct could not be mathematicized into axiomatic-deductive form would perhaps prefer this more complex rendering. But Plato seems to see a simple continuity in the story, and if one either assumes the "puppets" two-dimensional (as Near Eastern ones still are) or the vision of them by firelight as showing only a two-dimensional outline (the people carrying them remain hidden behind the wall; they are merely machinery for projection) this difficulty need not occur at all, and no strange epicycle in which *pistis* grasps more real objects less clearly, *dianoia* less real ones more clearly, need be forced upon the path of the ascending journey.

[10] *Ibid.,* 87. "... he [Plato] is writing before the literature of philosophy had settled down and matured into the form of direct logical statement."

[11] *Ibid.,* Chaps. VI, "Doxa and Gnosis", VII, "Ideal Forms and Reality," are examples. The alternative suggestion that ordered arrays of usage might be established envisages something like the two-by-two square matrix Plato introduces at the end of the *Sophist* to order and relate four senses of "things."

[12] The interpretation is philosophically interesting, and raises basic ethical problems. Perhaps Plato's treatment of men and states in the matrix of historical process which he had planned for the *Hermocrates* would have involved a similar projection of the conflict of interest and duty. But this would have presupposed the complete *Republic.*

[13] J. B. Skemp, *Plato's Statesman,* a translation of the *Politicus* of Plato with introductory essays and footnotes, "Rare Masterpieces of Science and Philosophy," Yale University Press, 1952.

work directing attention to a major Platonic dialogue which has not to date attracted the attention it deserves. This is a durable scholarly work. Here all kinds of speculation are suggested by imagining a symposium on the original dialogue and Mr. Skemp's commentary conducted in a complete Academy. Probably the most basic question is suggested by the division and order of topics in the dialogue. In a first section, a theoretic definition of a "statesman" is given, which, however, really defines a demi-god rather than a man. In a second section, a more practicable definition is devised, applicable to statesmanship as an art possible for a human statesman. In the course of this second stage of discussion, it is suggested that the basic interest lies in the description and exemplification of a philosophic method, of which the inquiry into statesmanship is only an example. Between these two discussions the Stranger tells a myth in which the universe is said to reverse its motion and run backward from time to time. All the subordinate cycles of celestial motion, and life-cycles of creatures, run backward too, as a result of this cosmic reversal. Perhaps in some past "Golden Age," men were tended by deities, and the first definition of "statesmanship" applied; but today, the past period is over, and in the reversed cycles of our age there is no hope that demi-gods will appear to serve in Congress. In the second part of the *Statesman,* there are many features to suggest that the methods of science and logic in our own age of cosmic reversal are the inverse of those which apply to the period when forward cosmic motion lessens the gap between ideals and actual history. Throughout his writings, Plato uses images of "inversion" or "reversal" to indicate the relation of his own theory of ideas to an empiricism which would equate the real and the sensible. In *Timaeus* 47 ff., there is a shift of method from teleological to genetic explanations of knowledge. Within this "reversed" methodological perspective, "science," "art," and "experience" are identified (in direct contradiction to their separation elsewhere). But the distinction between kinds of being and knowledge appears once more in the inverse account when the emergence of "philosophy" from cosmology and mathematics at last enables us to correct the confusion of

"being" and "becoming" that the identification of the *genesis* of knowledge with its *nature* had introduced. The second part of the *Statesman* may also proceed by an atypical course, using an "empirical" method in which process and reality are temporarily identified, until questions of method require recognition of the relevance of "philosophy" to "statesmanship." This identification, prior to a final correction, would explain three puzzling points in the later portion of the dialogue: 1) the odd notion that the possessor of the "art" of statesmanship is above "laws"; 2) the omission of a full proof that there exist natural norms, which we use as standards in "normative measure"; 3) the stress throughout on the importance of finding a correct, and self-correcting, method.[14] In further discussion of the myth, the members of our hypothetical Academy would no doubt compare the similar piece of mythology in the *Timaeus,* where Critias speaks of a periodic "parallax" of the heavens, accompanied by catastrophes.[15] This is quoted as an "Egyptian" explanation of floods and drought; Timaeus, the scientist, finds no scientific ground for such a concept in his subsequent exposition of astronomy. The parallel may help clarify the intented scientific status of the "cosmic reversal" story in the *Statesman.*[16]

If in the *Statesman* as in the *Timaeus* the emergence of pure mathematics, cosmology, and philosophy from a common genetic matrix of experience corrects inversion and reversal of our concepts, the logicians in our symposium will want to see just how this comes about. The *Statesman* claims to discuss and illustrate such a method. Its treatment of discussing discussion suggests a formal apparatus of self-referential validation for entire arguments, which is very like some of the latest contemporary work in formal logic, and which suggests new research there.[17] The concept of a formalized common method of normative measure also suggests a line

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[14] *Statesman* 293; 283-7; 274D-278.

[15] *Timaeus* 22D; Critias is quoting what the Egyptian priest told Solon.

[16] So may the *Timaeus* analogy of our interpretation of phenomena to vision, where "reversal" is a form of optical and psychological distortion.

[17] See, for example, Frederic B. Fitch, *Symbolic Logic,* "Appendix C. Self-Reference in Philosophy," pp. 217-226; "Subordinate Proofs," pp.

of inquiry for modern algebra. Plato's self-referential statements about the methods of definition and division are equally suggestive, but much less evidently contemporary. Mr. Skemp's treatment of the historical interpretation and criticism of the method of division by Aristotle and Speusippus sets the stage admirably for attempts at modern transposition and evaluation.

In this dimension of method, our logicians and scientists would certainly be fascinated by the author's fine tracing of the metaphors of "field" and "hunt" from the *Sophist* through the *Statesman*, and by the extensive note on the technology of weaving; and, being fascinated, would want to go on to consider the "net" used to catch the Sophist in that dialogue and the "social fabric" woven by the statesman as images of general tactics of location and classification in fields. (*Principia Mathematica*, after all, ends with a consideration of "Metric Nets.") The note in which Mr. Skemp points out that Plato is setting limits to mathematics which rule out such an identification of mathematics and philosophy as is found in the fragments attributed to Archytas, deserves a place of honor. It suggests that the Introduction might consider the *Parmenides* as an intended first dialogue in the *Theaetetus-Sophist- Statesman* series.[18] I suspect the psychologists and several scientists in other fields would not be pleased to find Mr. Skemp dismissing a nearly verbatim anticipation of several features of their latest models of the brain as a quaint antiquated fancy, showing Plato's scientific ignorance.[19] They might also insist that the variant text be discussed at 284E.[20]

20-32. Manley H. Thompson, "The Logical Paradoxes and Peirce's Semiotic," *J. Philosophy*, XLVI (1949), 513-36 suggests that logical paradoxes result when units of discourse larger than terms are taken as "functions," "dummies," or "matrices." This suggests that the paradoxes might also be evaded by making the matrix a complete argument, not a single statement out of context.

[18] Skemp, *op. cit.*, p. 173 note 1.

[19] Passages of *Cybernetics*, for example, are neatly anticipated in the Platonic model; Skemp., *op. cit.*, 89-90 is the passage that will provoke their admirers.

[20] *Statesman* 284E; Skemp, *op. cit.*, 173: "One section will comprise all arts of measuring number, length, breadth, depth or velocity of objects by relative standards". The Budé text (Platon, *Le Politique*, texte établi

Our Academy's literary critics and philosophers will agree entirely with the generalization that Plato is more prone to joking than most Plato scholars realize, but they will probably also feel that one piece of dry humor is wholly missed, and one not entirely grasped, in this translation. The English translation of Plato's joke that men and pigs have been running a race through the subclasses of division isn't as funny or as intelligible as further scrutiny of possible renderings of the text might make it.[21] The sudden use of a technical geometrical property as a zoological differentia is also meant as a joke. At least, taking no chances, Plato labels it as one in his text. It is the sort of joke which "sets limits" to the applicability of pure mathematics elsewhere in Plato (for instance, in the *Republic*).[22] But its irony is missed in the note in this commentary. (Aristotle's treatment of animal locomotion would suggest a more relevant diagram; but this would be of only historical importance, not scientifically or dramatically significant.)

The structure of Plato's text forces the reader to think as Plato did of the mutual relevance of separate fields of knowledge. Its fusion of philosophic inquiry and dramatic art keeps alive our sense of the vividness of speculative adventure and the dramatic character of philosophy. The logical and aesthetic technical rigor beneath the apparent casualness of the dialogues, a rigor never leading Plato to confuse truth with technique, invites and rewards continued study of the text. To do justice to Plato as a contemporary, we must have both specialization and cooperation of scholars. The studies of Plato which continue to appear are actually significant parts of the advancing philosophic speculation of the present day.

Yale University.

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par A. Diès) reads: ταχυτῆτας **T**: ταχύτητας [other mss], and the latter reading is adopted. The analogy to the curriculum of the *Republic* suggests a reason for the change in T; and the other version seems preferable.

[21] *Statesman* 266C; Skemp, *op. cit.*, p. 140.

[22] *Statesman* 266B; Skemp, *op. cit.*, p. 139 note 1. Bipeds and quadrupeds are differentiated as "diagonal and the diagonal of a diagonal". Compare *Republic* 534D.5, 580D.2, 526B, 602E.

Announcements

The American Studies Association, designed to promote "a better understanding of our country" by "communication across the established disciplines about the various prospects of America," invites new members. Membership costs are either $4.00 or $2.00. Membership at the higher rate includes a subscription to two publications of the Association. Communications may be addressed to Mr. Robert Land, Library of Congress, Washington 25, D. C.

The twenty-seventh annual meeting of the American Catholic Philosophical Association will be held at the University of Notre Dame on April 7, 8, 1953. The general theme of the meeting will be "Philosophy and Unity."

An award of five hundred dollars will be given by the F. J. Matchette Foundation for the best article in aesthetics by an American author during the academic year 1952-53. Articles are to be sent by May 1, 1953 to Dr. Thomas Munro, Editor of *The Journal of Aesthetics and Art Criticism*, at the Cleveland Museum of Art, Cleveland 6, Ohio.

Professor Paul Tillich, Union Theological Seminary, New York, has been appointed Gifford Lecturer in the University of Aberdeen for 1953-54.

Professor C. A. Campbell, Professor of Logic, University of Glasgow, has been appointed Gifford Lecturer in the University of St. Andrews for 1953-54 and 1954-55.

Professor Richard P. McKeon of the University of Chicago has been appointed Visiting Professor of Moral Philosophy at the University of Arkansas for the fall term, 1952.

Books Received

Aquinas, St. Thomas: *Truth* (Vol. I). A Translation of *Quaestiones Disputatae De veritatae*, Questions I-IX. Translated by Robert W. Mulligan. Chicago: Henry Regnery Company, 1952. xxvi, 472 pp. $7.00.

Becker, Oskar: *Untersuchungen über den Modalkalkül*. Meisenheim/Glan: Westkulturverlag Anton Hain, 1952. 87 pp. DM 19.

Blau, Joseph L.: *Men and Movements in American Philosophy*. New York: Prentice-Hall, 1952. xi, 40 3pp. $4.50.

Boehner, Philotheus: *Medieval Logic: An Outline of Its Development from 1250 to ca. 1400*. Chicago: The University of Chicago Press, 1952. xvii, 130 pp. $3.00.

Broad, C. D.: *Ethics and the History of Philosophy*. Selected Essays. New York: The Humanities Press, Inc., 1952. xiii, 274 pp. $4.50.

Butler: E. M.: *The Fortunes of Faust*. New York: Cambridge University Press, 1951. xvii, 365 pp. $6.00.

Buytendijk, F. J. J.: *Phénomenologie de la Rencontre*. Translated into French by Jean Knapp. Paris: Les Éditions Desclée de Brouwer, 1952. 59 pp.

Copleston, Frederick C.: *Medieval Philosophy*. New York: Philosophical Library, 1952. v, 194 pp. $2.75.

Carver, George A. Jr.: *Aesthetics and the Problem of Meaning: The Application to Aesthetics of the Logical Positivists' Verifiability Criterion of Cognitive Meaning*. New Haven: Yale University Press, 1952. ix, 89 pp. $2.50.

Cassirer, Ernest: *The Philosophy of the Enlightenment*. Translated by Fritz C. A. Koelln and James P. Pettegrove. Princeton: Princeton University Press, 1951. xiii, 366 pp. $6.00.

Fischer, Alfons: *Metaphysik der Person: Die philosophische Anthropologie Martin Deutingers*. Freiburg/Breisgau: Privately printed by the author. 473 pp. Mimeographed; half-cloth, DM 15.

Fritz, Charles A. Jr.: *Bertrand Russell's Construction of the External World*. New York: The Humanities Press, Inc., 1952. 243 pp. $4.50.

Gardiner, Alan: *The Theory of Speech and Language*. Second edition. New York: Oxford University Press, 1951. xii, 348 pp. $3.00.

Gilson, Étienne: *Dogmatism and Tolerance*. An address to the students and Faculty of Rutgers University. New Brunswick: Rutgers University Press, 1952. 14 pp.

Hall, Everett W.: *What is Value? An Essay in Philosophical Analysis*. New York: The Humanities Press, Inc., 1952. xiii, 255 pp. $5.00.

Hartmann, Nicolai: *Der Aufbau der Realen Welt: Grundriss der allgemeinen Kategorienlehre*. Second edition. Meisenheim/Glan: Westkulturverlag Anton Hain, 1949. xx, 616 pp. Paper, DM 21.10; cloth, DM 23.60.

Humphrey, George: *Thinking: An Introduction to its Experimental Psychology*. New York: John Whiley & Sons Inc., 1951. xi, 331 pp. $4.50.

Husserl, Edmund: *Ideas: General Introduction to Pure Phenomenology*. Translated by W. R. Boyce Gibson. Reprint. New York: The Macmillan Company, 1952. 466 pp. $4.50.

Hyndman, Olan R.: *The Origin of Life and the Evolution of Living Things: An Environmental Theory*. New York: Philosophical Library, 1952, 648 pp. $8.75.

Kimpel, Ben F.: *Religious Faith, Language, and Knowledge: A philosophical preface to theology*. New York: Philosophical Library, 1952. x, 162 pp. $2.75.

Marcel, Gabriel: *Metaphysical Journal*. Translated by Bernard Wall. Chicago: Henry Regnery Company, 1952. xiii, 344 pp. $6.50.

Mittasch, Alwin: *Entelechie*. Basel: Ernst Reinhardt Verlag, 1952. 60 pp. Swiss fr., 3.80.

Muller, Herbert J.: *The Uses of the Past: Profiles of Former Societies*. New York: Oxford University Press, 1952. xi, 394 pp. $5.50.

Murty, K. Satchinanda: *The Rhythm of the Real*. Waltair, India: Privately printed. iv, 151 pp.

Murty, K. Satchinanda: *Thought and the Divine.* Guntur, India: St. Michael's Industrial School Press. iv, 114 pp.

Nickel, Erwin: *Dast "physikalische Modell" und die "Metaphysische Wirklichkeit„: Versuch einer Metaphänomenologie.* Basel: Ernst Reinhardt Verlag, 1952. 100 pp. Paper, Swiss fr. 5; cloth, Swiss fr. 6.80.

Onians, Richard Broxton: *The Origins of European Thought about the Body, the Mind, the Soul, the World, Time, and Fate.* New York: Cambridge University Press, 1952. xvii, 547 pp. $9.00.

Patterson, Robert Leet: *The Philosophy of William Ellery Channing.* New York: Bookman Associates, Inc., 1952. 298 pp. $4.50.

Peifer, John Frederick: *The Concept in Thomism.* New York: Bookman Associates, Inc., 1952. 225 pp. $4.00.

Riesman, David, in collaboration with Nathan Glazer: *Faces in the Crowd: Individual Studies in Character and Politics.* New Haven: Yale University Press, 1952. xii, 751 pp. $5.00.

Shirk, Evelyn Urban: *Adventurous Idealism — the Philosophy of Alfred Lloyd.* Ann Arbor: University of Michigan Press, 1952. xi, 299 pp. $4.50.

Stace, Walter T.: *Religion and the Modern Mind.* Philadelphia and New York: J. B. Lippincott Company, 1952. 285 pp. $3.75.

Stout, G. F.: *God and Nature.* Edited by A. K. Stout, with a memoir by J. A. Passmore. New York: Cambridge University Press, 1952. liv, 339 pp. $7.00.

Thibon, Gustave: *What God Has Joined Together:* An Essay on Love. Translated by A. Gordon Smith. Chicago: Henry Regnery Company, 1952. viii, 192 pp. $2.50.

Veatch, Henry B.: *Intentional Logic.* New Haven: Yale University Press, 1952. x, 440 pp. $6.00.

Whittaker, Edmund: *Space and Spirit: Theories of the Universe and the Arguments for the Existence of God.* Chicago: Henry Regnery Company, 1948. 143 pp. $2.50.

Geach, Peter and Max Black, eds.: *Translations from the Philosophical Writings of Gottlob Frege*. New York: Philosophical Library, 1952. x, 244 pp. $5.75.

Jeffress, L. A., ed.: *Cerebral Mechanisms in Behavior*. The Hixon Symposium. New York: John Whiley & Sons, 1952. xiii, 311 pp. $6.50.

Lenin, V. I., et al.: *Soviet Legal Philosophy*. Translated by H. W. Babb; introduction by J. N. Hazard. Cambridge, Mass.: Harvard University Press, 1952. xxxvii, 465 pp. $7.50.

Linsky, Leonard, ed.: *Semantics and the Philosophy of Language*. A collection of readings. Urbana, Ill.: The University of Illinois Press, 1952. ix, 289 pp. $3.75.

Parsons, Talcott and Shils, Edward A., eds.: *Toward a General Theory of Action*. Cambridge, Mass.: Harvard University Press, 1951. xi, 506 pp. $7.50.

Radhakrishnan: Comparative Studies in Philosophy Presented in Honour of his Sixtieth Birthday. New York: Harper & Bros., 1952. 408 pp. $5.00.

Schilpp, Paul Arthur, ed.: *The Philosophy of Sarvepalli Radhakrishnan*. New York: Tudor Publishing Co., 1952. xiv, 883 pp. $7.50.

Van Breda, H. L., ed.: *Problèmes Actuels de la Phénoménologie*. Actes du Colloque International de Phénoménologie. Brussels, 1951. Paris: Les Éditions Desclée de Brouwer, 1952. 159 pp.

Wahl, Jean, Louis de Broglie, et al.: *Ordre, Désordre, Lumière*. Paris: Librairie Philosophique J. Vrin, 1952. 217 pp.

Wiener, Philip P. and Young, Frederick H., eds.: *Studies in the Philosophy of Charles Sanders Peirce*. Cambridge, Mass.: Harvard University Press, 1952. x, 396 pp. $5.00.

MIND

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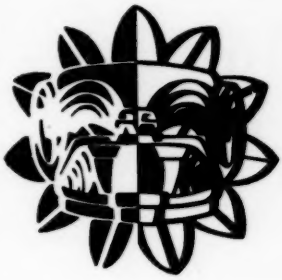

MAKING of the MEXICAN MIND

A Study in Recent Mexican Thought

by PATRICK ROMANELL

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